

The Games machine

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111
Reviews
72 products

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*AMIGA 2.0 DISKS

The Games machine

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It's a whopping

Reviews
to millions

**DIAL 0898
555080 FOR
A CHANCE TO
WIN COPIES
OF
STORMLORD
FROM
HEWSON**

See page 13 for details



WIN!

A HELICOPTER FLIGHT OVER LONDON

Courtesy of The Sales Curve. Plus copies of Silk worm for the runners up.
See page 27

WIN!

A KAYAK

Plus copies of the Incredible Typhoon Thompson from Brudersbund for the runners up.
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JEZ SAN

The mystery project is named at last, as we look at the first screens of Argonaut's F117A Aggressor

TGM 019 goes on sale from May 18. Miss it and know what misery really means



PIRACY

It's no game any more.
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are depriving programmers of
their livelihood.

Placed on behalf of FAST (Federation Against Software Theft)

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R-TYPE

They come from a dimensional plane other than the galaxy, emitting beams and waves from their complex alien systems. With us and our machines at resistance with few and far between, the fierce warriors of the R-Type Empire are now landing on Earth's blue face.

To be the first to see action on the Sega, ask a price without leaving the comfort of your television set. © 1987 Sega Corp.



CYBORG HUNTER

The year 2547 AD is the future, the highest technology in the galaxy. Weapons, Cyborgs are threatening to take control of the future under the direction of evil and leader, Viper. Your mission is to go against the Cyborgs and destroy them. Sound easy enough? Easy!

Available exclusively in the UK from Virgin Mastertronic. © 1986 Sega Corp.



Y'S

You're from Canada, a scientist wanted for the night and the day of tomorrow. You've found half-deadly and half-living creatures and the scientist you're looking for. The falling wings and all the things of the great state. Being in the distance was a small mountain range with an ancient tower of Y's. That's the "Y's" of the Great. The scientist told you as they made the sign of the great star. "In the place where the freedom of our land began to be watched the best, you know that your destiny waited there."

The whole thing looks incredible - the day of the great star. The Y's of the great star. The whole thing looks incredible - the day of the great star. The Y's of the great star. The whole thing looks incredible - the day of the great star. The Y's of the great star.

T G M R E P O R T

AMIGA — WHAT A SHOW-OFF!

What answers the phone, tells you to do the washing up, and beats every other computer at 3-D animation? The Amiga, of course. . .

Marshall M Rosenthal reports on Amy's latest goodies—the from AmigaExpo, the major US Amiga fair.

Two minds, one mouth! The Amiga isn't a computer — it's a talking robot, shouting out endless creative solutions.

If you remember how Commodore used to say you to do the right thing, you're ready to see *Amiga Plus* 3.2 from Commodore Software. This is a full-featured, full-screen-the-background, multi-windowing desktop, calendar — and all-around friendliness.

In voice-activated effect, imagine doing like an elephant's here to get your attention's remind you of important events, while full information is displayed in configurable screens.

Once Amy's reminded you of an important phone call, why not *do* with your Amiga — using the Home J20-04, also from Commodore? It's a voice-activated phone that lets you dial a different digit every time you dial a different digit, the combination of Home and a simple phone-dialer program can do the work for you.

Then, of course, you have to pick up the handset for our mail voice information — unless you want the computer to speak, too. For incoming calls can interact with the Amiga's voice support to play messages.

Some connect via RCA plugs to the second output of the Amiga and into the telephone line, and it results for only \$25 (about \$34.95). It's not much use in Britain at the moment, because UK phones don't use three-tone tones, but there's on the way.

A matter of fax

Phones are rapidly being replaced by fax machines for many messages, and they've become the rage in the States — unfortunately one of the results is that there's more another source of junk mail from, but here's to computers to find an extra use for faxes — sending a video image over a standard telephone line.

Harlow, in the Interactive PC and Systems, captures a video image and can compress every 1,000 frames on one hard disk, without losing any image

quality. A video camera interfaces with special hardware and software to produce the image, and then compresses, processing creates an ordinary fax machine to send a broadcast-quality, high-resolution color image across the country — or the world — in about three minutes.

It's described as a monitor on the video end, just as you send it. And all this is done every regular phone hour — no need here for the new technology of ISDN (TG2021).

Money and music

Finally, to keep track of those phone bills you'll need Gold Disk's *Finlay Budget*. It's a quick & clean method of keeping a business running — doing books and storing data.

On import seems likely, considering the popularity of other food book products like *ComiGone* (TG2004).

And when the phone breaks down and the business of high finance becomes too much to shoulder, just settle down to some soothing music — and check out *Clue*.

This graphics-oriented synthesizer program allows full control over any Giga tone generator or keyboard, disk that interfaces with MIDI. There are too many features to go into here, but American Amiga-owners were cooking and asking at how easy it is to create wonderful patterns and sound shapes with just the mouse, and how much and music become graphics which can then be stored.

CONTACTS: One is available from Computer Computing — South Bay, 4050 Redondo Beach Blvd, Torrance, CA 90504, USA.

Desktop Budget is produced by Gold Disk, P.O. Box 289, Brentsville, Massachusetts 019, Canada 1-813-321-1111. It may well be available from UK mail-order dealers.

And both *Amiga Plus* and *Home* come from Commodore Software, 17700 Wilshire Avenue, Suite 221, Beverly Hills, California 90212, USA.

A PC in your Amiga?

Among the best Amiga copiers available in Commodore's non-vetted market.

Bridges is a fully home cooking 486/66 PC, RT, (the latest and the fastest yet), into the Amiga. Besides one AT and one XT expansion slot, the board drives VGA colors and VGA, more PC windows simultaneously with Amiga graphics, all on an Amiga-mount.

The board gives configurations, of course, and has a hard disk as well, and even Java 2.0 software lets the bridgehead share a hard disk. RAM, floppy drives and mouse with the Amiga.

The price has yet to be set, though all signs indicate a retail of about

MUGging up

Shades, the multiuser adventure played for over 400,000 hours on microcom, should soon be joined by Shades — another multiuser game — MUGs from the same pot.

The Shades developer Neil Newell has joined forces with programmer Matthew Ward and former Microsoft supervisor Mike Brown, to develop as many MUGs as they can handle.

Calling themselves Third Millennium Systems, they're using a special MUG development language called MUGS (TG2003).

And they'll also be looking at the gaming possibilities of new technology like ISDN (TG2001).



Featuring our MUGs: left to right, original Shades man Neil Newell, Mike Brown, and Shades developer Matthew Ward.

The ultimate disk

Full over, floppies, and the new hard disk drive the most interesting thing right now in the world of optical disk systems.

Yes, a laser reads and writes to the disk, and that means being able to store the equivalent of 100 times the capacity of a floppy.

And, a laser reads and writes to the disk, and that means being able to store the equivalent of 100 times the capacity of a floppy.

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Piracy: just say no!

A massive crackdown on piracy and more games under the Christmas tree are among the targets of the software world.

There were decisions made at the Computer — Action conference in Major's last month — the initial group of major figures in both software and hardware, not by EISA's publishers.

The result on piracy, spearheaded by the Federation Against Software Theft and its Coordinator Bob Hay, is aimed not at making piracy more technically difficult but at convincing people it's wrong.

In addition to packaging, a shortage of retail outlets, advertising in magazines and literature such Com-

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TGM PREVIEWS

Sports
onscreen

Fed up with Franks Brown? Enamored by Evelyn Hughes? If you're a sports-sim fan, try CDS's latest in the ever-growing collection of ball-of-battle games—Steve Davis World Snooker. It's not only, it's pitched as an upgrade from the first Steve Davis simulation, and should be available now for ST and Amiga at \$79.95.

Features include the non-standard room, adjustable shot strength, and digitized music (in this case TV snooker theme songs). Four different games are included: British and American pool, billiards, and carom (a kind of billiards without pockets).

A PC version is expected eventually. Meanwhile, for the more strategically minded, new horse-racing games are available for the ST and CPC. A Day At The Races, a moment-controlled ST package from UK-based Team Software, supports up to 16 players. And it features animated races as well as a large macro-driven management section. Now and till forever, choose jockeys, place bets, print out the results for up to 100 different horses and 16 jockeys. It's available



Steve Davis: putting on his crown again for CDS

from Team Software (address: Berkeley) for \$149.99 (about \$21 at press time).

And C&H Games have released The National for the ST, CPC and Atari. Following a successful Specimen release, Agate put you in charge of a stable of racers. It takes you through a season (including major races like the Derby and

Grand National). At \$29.95, it should be in many software shops now.

Team Software: PC—Box, 7011, Washington, DC 20044, USA; ST (from UK) 019 1 799 011-1113 or 019 1 450 676-1211.

■ *Software for a probably day at the races: see Times in Back Byte, page 42*

Up to par

Play that stroke of genius in Accolade's Moon L8, a leading American golf game now available in the UK through MGA Software. On PC, Amiga, Apple II/GS or Mac, first players can compete against rich others to try to beat the par, and when you're exhausted the possibilities just turn to the finer Farnsworth course links.

There's even the option of courses like Las Colinas, Moonfield and Inverness Loch, and not fully compatible with Moon L8.

Moon L8 itself costs £19.95 on all the formats except PC, at \$14.95, while the Farnsworth links range from £14.95 to £24.95.

Nicklaus

MGA Software also have two other Accolade golfing games, including ST and C&H packages. And Nicklaus Golf is available for C&H \$29.95, Amiga, PC and Apple IIGX at \$29.95, while for the late as late Moon-Put it's on C&H, ST, PC and Apple IIGX at \$24.95.

MGA Software: Post Box, Accolade, Box 1726, LA 90011, 81071.

Creatures feature in
Ocean Nightbreed game

Ocean game out a surprise winner in the bidding for the Nightbreed license—and now they're hoping that the game-of-the-moment, now released around Christmas, will

Not going for
Gold

U2 Gold had been expected to win the license after long negotiations, but clearly Ocean's recently released for their film-based games—offered the movie in company money, whereas in money in its guaranteed experience.

Ocean believe in Manager Gary Huxley's words about "not going with movie treatments... I think we've got the strongest stable of movie releases of any [software] company".



Author Clive Barker: rating hell again

match the success of previous licenses like RoboCop and Planet. The programmers of this production already adventure will likely be Impact Software, who recently scored with the license for the same software firm.

The movie, which recently

started shooting, is based on horror master Clive Barker's novel *Catla* (Barker on software: "Gosh, but it's not exactly a horror movie," says Ocean Software Manager Gary Huxley. "There's going to be a 15-minute... It's more a creature movie. And they're just creatures, not gory... there's going to be more creatures in this than any other movie").

Barker is also writing and directing the film, his first since *Hellraiser*. As with the game's development team, allowed full access to the film sets, Ocean should be able to get their high-level close to the author's intended atmosphere.

Says Huxley: "We are getting every cooperation from the film company, we're there practically weekly, we're seen to storyboards."

For their part, the film-makers—and particularly special effects team Image Animation—are "im-

aginated input" into the game, says Huxley. "They're actually involved in the storyboarding of

Grave matter

Ocean may be getting *Nightbreed* as "creatures" not "horror", but the U2-based Producers Systems there's only one way to go—straight down the grave.

For their new game *Zombies*, created for Alfred IFC, C&H, Apple II features "fast actions arcade horror", "Biker horror scenes" and—the core thought—"realistic sound effects".

Search along with the first 1-D horror game from Producers Systems, 2 N. Highway 4 corner, Warner, NJ 07046, USA. Tel 0201 714 613 2245.



Chen's Gary Bivens, working closely with the team

the game – but they wouldn't let us write the movie!

Look for Chen's game on ST, Amiga, PC, C64, CPC and Spectrum this autumn. Meanwhile,

the Nightlord movie will debut in North America in August, and presumably hit Britain at much the same time as the computer version.

Red Heat

Out soon – Ocean's movie licence



Red Heat starts in the Russian zone, where the player – Arnie Schwarzenegger (who films a cameo down a long drain). His first mission involves casually strolling from the water and into the absolute water – for hand-to-hand combat.



Directed by programmer Jonathan Smith as a Chen three-eye wonder, Red Heat has four levels of combat in American and the Soviet Union.

ST and Amiga versions employed CPT screens and players here. For fans of 1940s film noir, design will be very similar, along with Spectrum C64 and CPC. Programmer's Special FX, previously responsible for Red Heat, were developing complete work in mid-April, so expect initial work



Yeeuch!

It's simply disgusting. Bratling TV character Gilbert the Alien (from the French) is spilling his gutsy self over all major formats. His movie in Gilbert – Amiga (1985).

The Again Again game isn't Gilbert going in search of his personal Body Goal? – a disgusting unit. And to find it he'll have to fight in time limit in his different arena arenas, including lightning at the end. (C64, C64, Amiga, Spectrum, ST, Amiga, Spectrum, C64 and CPC).



By again, Yeeuch! must make the first world long one. It's word along time for all paying his share back in the land, the one who's off work.

Divine music

Top music composer Rob Hubbard has done the impossible – he's improved on Creation! For after writing Electronic Arts' godly game Populous (1988), Hubbard agreed to produce an inter-duction soundtrack.

Now working at Electronic Arts' California HQ, Hubbard has used modern electronic music as the basis for his strongest work.





From France with death, the Challenge is the game from Paris based on the game that was released there, thanks to France.

And because you're a pilot, there's more to you in the game, so the more you know about the game, the more you'll know about the game.

Programmed by the team behind the game's Space Wars, the Challenge features an amazing bit of music, and more on the way - and more on the way.



Based on the 1984 Atari game, the game is a sequel to the game's Challenge, and is a sequel to the game's Challenge.



Based on the 1984 Atari game, the game is a sequel to the game's Challenge, and is a sequel to the game's Challenge.

Bomber: 'Test Drive of the skies'

That's how Vector Graphics boss John Lewis describes their latest 3-D project - a simulation of 14 different state-of-the-art planes, based on a real-life bombing competition!

And it also marks the beginning of Vector Graphics' four-game deal with Activision - previously the development team wrote Star Wars and The Empire Strikes Back for Denmark.

Put Bomber on your shopping list: it's scheduled for all major formats including PC. But first take a look at what you're going to fly... and wait for up-to-date news on the project.



Direct and ready: F-17 Strike Eagle in Activision's Bomber



Simulated: Bomber features a top-down view of a plane, with the camera and the top-down view of a plane, with the camera and the top-down view of a plane.



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ASDG (UK) Announce ProScanLab for the Amiga 2000.

ProScanLab allows full control of the Sharp Colour Scanners, giving full 2400 colour input and output to the Amiga for Desktop Publishing and graphic editing. The full colour graphic output is compatible with all postscript printers. And can be output as a file for printing by your local DTP bureau or direct to your own Linotronic device. ProScanLab allows editing of the input so you can pick just a small area of your image for output. If used in conjunction with Gold Disks Pro Page program this allows you full Colour DTP with 16.7 million Colours output. **ProScanLab Board & Software £940**
ProScanLab & Sharp A3 Scanner £7500.
ProScanLab & Sharp A4 Scanner £3400.
All prices include VAT.

For further details on this and all ASDG product please contact ASDG (UK)

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ST ACTION December 1988

"I can find absolutely nothing to fault in HOSTAGES - it really is state-of-the-art software: it has excellent graphics and atmospheric sound, and the game itself is totally engaging. Infogrames have taken a seemingly impossible theme, and have created a veritable masterpiece"

ATARI ST USER January 1989 Star Game

"The gameplay is totally addictive, graphics outstanding and sound effects thrilling. Definitely an exercise involving as much cerebral activity as joystick dexterity. My personal game of the month" (Lester Hunt)

ST AMIGA FORMAT October 1988

"HOSTAGES manages to effectively capture the edge tension of an armed siege ... so if you're after convincing atmospheric tension and the chance to feel the sharp end of live reinforcement you'll find HOSTAGES quite a liberating experience"

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THE GAMES MACHINE December 1988

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Buzzzz! Kkkk, kkkk, wrings, brrr brrr CLICK! Yes, the TGM phone-in lines are ready and waiting with all-new information. Just pick up your phone and dial the hotline number to hear a fast-packed two minutes of information detailing release dates for the top games for April and May – or call the News Update line to find out what profits and scandals the TGM team have unearthed this month.

And of course there's a massive series of prizes too. This month we're offering you the chance to win one of 50 copies of Hewson's Stormlord!

Every month we'll be adding more and more to this unique service – coming soon we'll have a billboard line with hot news delivered direct to you, leading up to full story in the following issue of TGM.



Information – online!

Printed here is the number which connects you direct to the TGM Hotline service. And we've got 160 lines, open 24-hours a day, so don't worry about the service being engaged. Ring this number and listen for just two minutes as we tell you what games are coming out, and when!

For the information you're getting, the Hotline's cheap. The phone call will cost you 25p per minute when you call during off-peak time (Mon-Fri 9pm-5am, Saturdays, Sundays and Bank Holidays), or 35p per minute during standard and peak times (9am-5pm Mon-Fri).

Or grab the latest news on what's happening in software by ringing TGM's News Update line. We can get fact stuff on the News Update service quicker than any magazine can get it in print – so don't lose touch, use News Update!

Now smile, and dial...

Hotline

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WIN STORMLORD 50 COPIES OF HEWSON'S SMASH HIT UP FOR GRABS

Blaze your way through space with Hewson's classic shooter Stormlord on Spectrum, C64, Amstrad CPC, ST and Amiga. It's the dead brilliant game written by Ralf Cecco, of Cybernoid fame – wretched[ish] screens of action packed with gorgeous

graphics and deep sound. (Even if you don't win you can get Stormlord in the shops now, or directly from Hewson.)

Here's your chance to win one of the 50 copies Hewson are offering in the Hotline prize!

HOW TO ENTER

Dial the number (great, great) and listen carefully to the three questions. Fill in your answers in the boxes provided and complete the following sentence given to you over the phone.

When you've finished the questions, fill in your name, address and postcode format, and send it all to: STORMLORD COMPETITION, TGM, PO Box 15, Ludlow, Shropshire SY8 1DS. All entries must reach us by May 15 1989 and, as always, remember the competition rules on the contents page!

The TGM Hotline is produced by TGM Magazines Ltd in conjunction with Charterbox Ltd.

1

2

3

Complete the sentence given to you over the phone in no more than 20 words:

Name:

Address:

Postcode:

Computer format:

My choice of game:

MOVING PICTURE MAGIC

Amiga animation becomes a reality this spring with the arrival of *Deluxe Paint II* and *Zoetrope* - powerful software for high-powered creation.

For TGA's in-depth report, Robin Candy tested the pair... and they both came out winners.



When all thought Amiga art utilities had given up for as they could, *Deluxe Paint II*, *Phoenix Paint* and *Deluxe Photoshop* all featured exceptionally powerful commands which pushed the Amiga to its limits. But now the latest wave of art utilities have branched off into a new step - animation.

Users of Electronic Arts's *Deluxe* series of art utilities will be instantly at home with *Deluxe Paint II*. The main tools menu, complete with open, save, fill and shape tools, is identical to that in *Deluxe Paint* and *Deluxe Paint II*. It's only when you look at the other menus behind the title bar, and the tool-mod-

ification windows, that the differences between *Deluxe Paint II* and its predecessors become apparent.

There are four new fill types - line, brush, wrap and halftone - as well as the old favourites, solid, gradient and perspective. And colours can be created two ways: either by defining the red, green and blue (RGB) components of each colour or the hue, saturation and value (HSV) levels.

When a fill operation is performed, the hue and saturation levels of the current background colour are replaced by those of the current fill colour, while the value level remains unchanged. *Deluxe Paint II* then cal-



Deluxe Paint II's more powerful fill system just four frames from a 10-frame animation. The background remains static while the tree's legs swing into the foreground, in stereo fashion.

culated the RGB value of the colour and fills the area with the closest-matching colour from its palette. So the fill depends on the colour's availability in the current palette.

A brush fill uses the current custom brush and resizes it to fit the fill area. Wrap is used to give the illusion of wrapping the brush around a 3-D object, by adjusting the size and shape of the brush to the horizontal and vertical lengths of the fill area. Finally, halftone only works when in extra halftone mode - it replaces the colour in the fill area with one half as bright.

The perspective commands of the earlier *Deluxe Paint II* are among its most powerful features. A custom brush can be rotated through a, y and z coordinates to occupy a new plane - very useful when trying to create 3-D



Details - the scene comes from a Tolkien story - was drawn in Deluxe Paint II's extra-hatchle mode, making extensive use of the artwork facility



effects.

But though the commands are powerful enough, the manual seems a bit to be desired. Thankfully that has been rectified with Deluxe Paint II. The manual includes detailed (and understandable) instructions along with a tutorial to demonstrate the potential of the perspective commands.

Other new additions include over-

scan painting, allowing you to paint on an overlaid screen; and extra-hatchle, doubling the size of the palette to a maximum of 64 colours.

Here, the palette is split into two banks of 32 colours. The first is predefined, while the second repeats the colours of the first but displayed at half their brightness.

However, if you already own a reasonable art utility these improvements alone do not justify £75.00. It's the animation commands which make Deluxe Paint II special.

They wuz framed

The illusion of motion is achieved by creating a series of pictures, or 'frames', that differ slightly from each other. When these are displayed rapidly one after another, animation is created.

Drawing each frame individually can be a long and laborious process, so Deluxe Paint II includes commands to make this process faster and easier.

One of the utility's unique features is animating. This is a very quick



method of creating an animation, and when it's combined with other commands such as an animated brush, the results are even more complex.

The first step is to set the number of frames you wish to paint across. As you move the mouse across the screen, one copy of the current brush is pasted onto each frame, following the movements of the mouse.

When the sequence plays back, the brush moves across the screen, mimicking the movements of the mouse.

An animated brush is simple to create. Just create an animation using one of the other animation commands, or by pointing on each frame individually. Then use the **Animate** mouse command to begin the animation.



Amiga states: this time King Tut's subjected to Deluxe Paint II brush-multiplication commands using the **FLIP**, **BEND**, and **PERSPECTIVE** options

up. You can now use it as a normal brush, but as you paint the brush cycles through its animation.

The usefulness of this can easily be shown. If, for example, you wanted to animate a figure walking across the screen, you'd first draw the various movements of the figure's legs, arms etc. in successive frames.

Then pick these up as an animated brush, and use the **Automove** command to move the figure across the screen. When the animation is played back, the figure will appear to walk smoothly across the screen.

The more complex automatically moving or rotating a brush through many dimensions across a series of

frames. Brushes can be made to shoot off into the distance, rotate, expand or perform a combination of all three.

The results look complex, but in fact they're very easy to do. All you have to do is specify the distance, direction and angle at which the brush is to move, provide it its check that everything is okay, and hey presto - instant animation.

The main drawback of the primitive commands is memory. Deluxe Paint II requires a minimum of 1MB RAM to operate, and ideally 2MB/3MB for better results. Saving long animations will also require high-capacity disks, of course.

Deluxe Paint II's palette selector uses both RGB and HSV methods to create instant colour



the famous King Tut statue, used for years to promote Deluxe Paint, undergoes some radical changes with Deluxe Paint II's **animate** command



It's no doubt Deluxe Paint II's more sophisticated **Just Type** is a time-saver, and in no time your brush is painting around the screen.

The higher the resolution the less memory there is for animation, and more complex animations will also require more memory.

Zentropo

Amiga's **Zentropo** is the much-improved Amiga version of Cyber Paint. Intensely available on the AT only, it is primarily concerned with animation, as the painting side of things has been neglected: the basic graphics tools such as **eraset**, **zoom** and **shapes** have been included, but there are no innovations.

Customised brushes can be grabbed, rotated and resized, but once again there's nothing you wouldn't expect from an out-of-the-box utility. Amiga's used to other utilities supporting resolution at over 4,096-colour modes, will be disappointed to find that **Zentropo** operates only in low-resolution 32-colour mode.



But what **Zentropo** lacks in **3D** departments, it more than makes up for in animation.

All animations are controlled from the onscreen playback bar, which is small enough not to obscure great portions of your work. It's similar to the controls on a VCR: you can play the animation forwards or backwards, or fast forward/rewind to a particular frame. The package also includes an additional programme for your animations independently of **Zentropo**.

When you're animating an object such as a moving figure, there are only slight differences between the frames, so it enables time-saving to redraw the figure for each frame. It's far quicker if you only have to draw the slight differ-

Upgrade offer

Owners of Deluxe Paint and Deluxe Paint II can purchase Deluxe Paint III at a reduced price.

Just send in proof of purchase - such as a page from the manual or the command documentation - to Tommaso Arts and a cheap Deluxe Paint III can be yours.

The upgrade costs £50 for Deluxe Paint owners and £30 for Deluxe Paint II owners. And Tommaso Arts is addressing the last-headed there's **Tom** Tim.

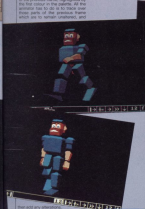
erence—and that's exactly how Zoetrope works.

Zoetrope features drawing commands which enable you to do this drawing's spinning turn! Each frame except the first displays the contents of the previous frame, highlighted by the first colour in the palette. All the animation has to do is to trace over those parts of the previous frame which are to remain unchanged, and

that's, that's that's spreads the movement across all the frames.

Zoetrope is a daunting package to use. Unlike many art packages it isn't instantly 'friendly' when it's loaded

you're presented with a screen which, except for the command cursor, is blank. However, the manual has a series of tutorials to illustrate the functions of each command, and with a little practice most of it soon becomes easy to use.



Remember One Minute's Money For Nothing, didn't? Here are the frames from one of Zoetrope's demonstration animations.

that add any alterations.

This package's most powerful feature is the APM (Auto) Paint Inpaint effects menu. Just the Deluxe Paint II's more powerful, the APM allows you to create stunning animations in minutes.

And the list of available options is impressive. In its menu, you control how your brush rotates, including the angle of rotation, the number of rotations and the axis. Set allows you to stretch or expand a colour to a specific centre or vanishing point. Move moves a brush a specified distance along x and y coordinates. And Auto allows you to draw the path which you wish the brush to move along.

Twining

'Twining' is a term invented in the early days of animation. A master animator would draw the key movements of an animation, and get an apprentice to fill in the missing frames.

So Zoetrope also features a Twine command to help speed up the animation process. Twine works in conjunction with the APM effects menu and colour-manipulation commands, to produce a series of frames each featuring the brush in a new position. You set the starting and ending posi-

■ AND THE WINNER IS ... Deluxe Paint III vs Zoetrope

Both Deluxe Paint II and Zoetrope are contenders for the coveted title of 'best design art package'. On the animation front Zoetrope is the winner—the drawing commands are a real plus when drawing an animation frame by frame, while the APM effects menu is great for creating animated backgrounds.

But Zoetrope is limited in other areas where Deluxe Paint II excels. It only operates in low-resolution 32 colour mode—hardly exploiting the Amiga's potential. Deluxe Paint II shines for a variety of resolutions, and public view. Making it more flexible for screen designing—but this all adds up to nothing.

And speed, memory is one area where both packages are limited. Deluxe Paint II wins as it can use more than 1 Mb of RAM to operate, and clearly 2Mb or more to create animations that last any decent length.

Some skill required

It's also worth pointing out that though both packages feature powerful commands, the quality of animations depends on the abilities of the user. Complex animations are slower a fair amount of drawing, and neither of the programs will design layouts for you. This is where Deluxe Paint II scores points, the paint section is far superior to Zoetrope's.

It takes time to get good at animation. If you've lost the previous experience, Deluxe Paint II is the better package—not only do you get a good animation program, but also a fantastic art program. The manual is new and the program is easy to use.

Zoetrope is only for those who are already familiar with animation techniques, or that their artistic abilities enough not to need a good art utility.

■ Where to find 'em

Deluxe Paint III (Executive, only, Langley Business Centre 11-48 Station Rd, Langley, near Slough, Berkshire SL2 8PL 0494 715 4000, £79.99)

Zoetrope (IBM, Gower Street, London WC2E 6BT, Apple II only, 68k or higher PC/AT 5-7-85 (0800) 800014, £99.95)

THE GREATEST SHOW ON EARTH

You won't find bearded ladies or elephants on the Amiga screen — but there's no reason you shouldn't make some, with the vast variety of high-tech tools available.

From two major New York shows, *Manhattan* Ed Rosenfield reports on the magnificent staged beasts of Amiga graphics.

If it's a circus — bright twinkling lights and people dancing until their mouths are dry and ash. But it's not a human artist or a clown that's causing all the excitement; it's the New York Computer Graphics Office. Here you can find not only the most stunning graphics and animations, but also the newest technologies to create them.

“Everyone you look at graphics, animations, computer imaging workstations — with companies touting their latest efforts in 3-D imaging. One of the most impressive is an Amiga running Sculpt Animator 40, from Byte to Byte.

In the latest upgrade of this popular ray-tracing package, new features have been added that really make the program fly — features like grids, assignable hot keys, metal texturing, motion blur, an animation scripting language and (what?) improved windowing speed.



Light travels. Sculpt Animator 40, from Byte to Byte animates ray-tracing for realistic, computer-generated illustrations. AMCA's offices in London, too.

But why did they do it when Sculpt Animator already had people standing up to cheer? (You might, head to Hives Inter Productions, call it that.) “People aren't happy with fixed to the back, they had to have desert too.”

Describe rendering animation process that allows you to create 3-D images and give them the glow of reality, it isn't true ray-tracing, but speed is the advantage: animations can be rendered in hours, not days or weeks.

The program can also take full advantage of 586/16.500 upgrade boards, improving on the performance of the Amiga's standard Motorola 68000 processor, and matrix co-processing chips (a 400-page manual summarizes part of the package).

There are also ready-made “parts” available, including 3-D birds, and the components necessary to assemble

your own Outer Space Station — at least on the computer tabletop.

Amiga grows up

Graphics shows also bring people together, and in New York designers and hardware makers had a chance to take one-to-one. Roman Ormady of Cohen Software, New York, was one of those who stopped to chat.

“You get a chance to stretch your mind and what others are doing,” he notes. This kind of interaction can only prove helpful — from this comes new developments, and better ways to improve systems. It's good to know that the “Amiga” Amiga is truly a fast-growing member of the ongoing process.

Ormady's Amiga program, Caligin, is a high-end 3-D animation program for professionals, and an excellent example of just how far Amiga can go. Animation director animator Robert Del La Rosa is one of those using Caligin. “The interface is so simple that it only took me an hour to make a 3-D object,” he remarks.

Del La Rosa is really sold on this product, despite the US price of \$1,999 (about £1,180 at press time). It's really amazing, he proclaims. “You can design a landscape in minutes within hours, do it all and play it back in almost no time at all. For a designer, it's a dream program of 3-D graphics.”

Cell-animation

There was animation aplenty at Amiga, the recent New York Amiga show, but here this month's news for more on the show. Visually (technologies had C.A.S.T.) — the system used to create the animation of Ormady's Caligin. This sophisticated cell-animation's evaluation transferred to the Amiga, and passed to the professional.



Soaking into high seas a picture created with Robert Del La Rosa's Caligin.

Another cell-animation looks Lightbox, from Hives Productions. It's a really professional package based on



Layer of the detail this scene comes from a Caligin animation. “It's a dream program,” says one professional animator of Cohen Software's package.

its mathematics, the cell-animator's light source.

Of course it adds the power of the Amiga, but you still do all the of yourself or import from other 3D files before saving it to disk as a file that can be animated using page-flipping programs.

What says Lightbox apart is that it is not an animation program, but a user-controlled alternative to using cell drawings on paper. AAAA looks as many working frames as possible — yes all is automatically saved to disk for safety. Add to that a “library” of 3D images per second and “invisible” reference lines to help you place each cell correctly — all in a simple, elegant package.

For MCI users, Mincore have Pagegator. The bottom line is that with Pagegator, separate from a MCI instrument can make the Amiga drawings reverse an animation.

Continuing, an animation could be the computer for a MCI performance. This really opens the door wide to all sorts of musical possibilities, but support is also included for two other Mincore products: Pagegator Plus P20 and Pagegator 3D.

And finally, another way to control animations: Dan's Performer. This works with all types of files — ASCII, PBM, GIF, PPM, PNM. Full control is given over speed, number of frames, full play, and frame-to-frame. Multitask with music and sound software — even cut out, change any image and then pull it back in the file. Precise real-time control is the latest here.

Animals on tape

Deal with animation, but back at the New York Computer Graphics Show, how do we get those great graphics on the screen?

Mincore Graphics's solution is a reasonably-priced transfer of anima-

Drawing on experience

Be happy with HIVE — By Eugene J. J. from New York.

Expanding on the capabilities of the HIVE mode drawing program, I have taken advantage of your idea, three forms of input, meaning, and high speed and allowing a technique that removes those internal “pages” (background when you draw circles and images).

Meanwhile, I had Dan's Pro Draw system infinitely pure color on the same interface as Professional Page. The program was designed to produce high-quality, and high-quality results are the most in any other. Simply convert all those drawings on the Amiga will find this the one to go!

W T H E E S

● LIKE YOU'VE
NEVER SEEN IT
BEFORE! WIN THIS
SUPER 'TYPHOON
THOMPSON'
KAYAK FROM
BRODERBUND



SEA



K	A	Y	A	K	A	Y	A	K
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K	Y	A	Y	K	Y	Y	A	K
Y	A	A	K	A	A	Y	A	K
K	K	A	K	A	K	K	A	A

W

hat's small, bright and zooms across the deep blue sea? Typhoon

Thompson – and it could be *you*, too, when you win this professional-style 3-metre Sprint 300

kayak from Broderbund. It's perfect for lakes, rivers, sea and even swimming pools – just row and go. And for runners-up there are five pairs of brandish two-tone cycling shorts.

It's a prize and a half for a game and a half, the first title from American software house Broderbund to be released over here by Comark. As a Star Player, Typhoon Thompson scored a whopping 90% on the ST this issue (page 34). And it's so addictive and amusing – dipping over the water at breathtaking speed, searching the islands for sneaky sea sprites, and then playing a crazy, top-speed chase'n'catch game, all with incredible animation! You'll want to take it in the kayak with you...

Special prize for programmers

Anyone can enter Broderbund's Typhoon Thompson comp, but to keep the technical types amused during a long wait spring TGM is offering an extra prize of £20 worth of software.

What we want is a program to solve the KAYAK word puzzle, in any reasonable language (no

assembler or machine code, please). Get working on those arrays, and send a listing to TECHNICAL THOMPSON COMP at the usual competition address.

No time limit on this one; the first working program to solve the puzzle, and gets printed in Black Bytes.

Don't miss the boat

To win, find all the occurrences of the word KAYAK in this puzzle. The word can go up, down, left, right, or diagonal – and remember 'kayak' backwards spells 'kayak' too....

There's no need to send the actual puzzle in if you don't want to – just write the number of occurrences on a postcard or the back of a sealed envelope, add your name and address, and send it all to TYPHOON THOMPSON'S KAYAK COMP, TGM, PO Box 10, Ludlow, Shropshire SY10 9DQ to arrive by May 18. Usual rules as printed on the contents page apply.

Now, as Typhoon Thompson's guardians say: bring us the postcard!



POWER TO THE PEOPLE

Don't despair! More power and better presentation were the buzz words of the world's biggest micro-music show—as the range of sophisticated software showed.

Graham Wayne reports with words and pictures from Frankfurt, West Germany.

Tickets are filled with short German piano vendors taking with downcast glances to Italian organ vendors, whose beautiful wives are sitting with several German association manufacturers deceived by the masses of false Japanese into believing they're making a sale.

Musikmesse, unbeknown to the misaligned businessmen in this city, the reconfigured music stuff you plug in the wall is hidden on two floors of a smaller hall across the way—though "small" means a fair and fairly equivalent to that of London's Olympia.

This is the Messehalle, on the outskirts of Frankfurt's concrete hard center, the site of the 1989 Musikmesse—the world's biggest exhibition of music equipment, sound and related stuff.

It wasn't hard to find the right areas of the exhibition and the vast complex of glass and steel, all pre-wired to do was follow the borders of German leather-clad heavy-metal bands, mostly guitarists and drummers juggling from the coffers and accessories, along the moving walkways as they flocked to study the new array of guitars, amps and drums that permeated the show.

Virtually every kind of hardware was displayed, from lighting rigs and disk-based digital recording systems to light cases, guitar bags, sticks and pickups. Of course, there were plenty of keyboards, samplers and so-

on, sound which were gathered the more moderately-dressed keyboardists, with long, dark and flower-spraying impressive stands that, compact, squeezed nearly half the space taken by Yamaha.

I had to look a little harder to find the MIDI and computer products. Rightly I'm spoiled by shows where computers are the main draw on the agenda, so it took time to see the side of the show. Most good music-software companies were present, but there were a few interesting hardware items too.

Dugma, a French company, were demonstrating the Midline—a sleek, rather futuristic-looking microphone that converts audio signals into MIDI pitch and velocity information. It can also transmute the input it requires, either transmuting the information on of two channels.

Long-established manufacturers Bucher were marketing a MIDI conversion pickup and controller unit for cases and pianos, and there were several MIDI patchers, patch bays and instrument controllers for guitars, basses and drum pads.

Nearly all the computers were 16-bit, not surprising considering the increasing use of the machine's pre-eminence in MIDI applications and its popularity in Germany. There was just a handful of PCs, and a few Amiges and Macs (though several more Apple machines were to be found interfacing with high-priced hardware).

And there were two general themes



running through the show: the need for more processing power, and the redesign of user interfaces.

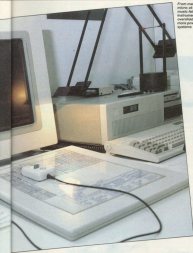


What you see . . .

All the recent products I've seen are providing revised alternative ways of viewing data within an interface. There are no new innovations, only the evolution of other interfaces from their products.

Not everybody has to have graphical scoring, it seems. Many have windows providing standard musical notation, Windows to draw in controller data and so on are becoming passé, some writings in the last page.

"Are software houses really serving the user's best interests?"



From manuscript to score, all Frankfurt's giant instruments were overlaid/edited by one most powerful computer system.

The result of this intuition? All the systems got to be mighty similar. Exhibitors at Frankfurt were showing very powerful, capable software, but I wonder how buyers are going to be able to make selection, with so much redundancy about the fine aspects of sequence operation and so little choice between the facilities.

But one of the criteria to consider is processing power. For some time, it's been clear that overheads on the 68000 series 38600 chip will have to be cut down if it's to do more work quicker, since the processor cannot be upgraded or accelerated like a PC's or Mac's.

There are several areas where improvements need to be made. Screen-rendering in GEM is notoriously slow. Languages like C, though portable, cannot achieve the performance of machine code. And, for those with enough memory, the need to have more than one program running at once becomes urgent the first

time you want to add your Roland 4000 or Yamaha FX1 while a sequencer is loaded into the computer.

At the Musikmesse, several companies were demonstrating solutions to these problems.



Multitasking

On the Macintosh stand, there was operating system - MROS was announced across three formats - Mac, PC and 68000. The MROS system is properly multitasking, a term that suffers a fair bit of liberal interpretation these days, if not abuse.

In other words, MROS runs different applications concurrently - if you enter an editor program in memory, the sequencer also in memory continues its function. And it also acts as a network controller whereby, Steinberg claims, several 68000s can be synchronized together and any one of

them can command all the others.

While such a facility does lead to rather grandiose speculations about vast numbers of computers, the multitasking operating system makes real-time sound editing possible while the device plays its sequence.

Sample or effects editors can control their devices, while mixer automation or volume-envelope programs name output their output, if you see what I mean (all this being dependent on MRS, or some other company, releasing an 80486 32, of course - or a user linking two 486 50's, if you go with the Steinberg view).

And MROS also controls access to the 68000 processor, ensuring that a time-synchronized program (such as a sequencer) will have priority over other programs running at the same time.

So far, Steinberg have announced four products that run under the new system. The first is a sequencer called Cubel, featuring what they call 'visual song processing'.

This amounts to scoreable notation, notes and point-editing and changing in time with the music, fairly new concepts, if the truth be known. But being subtle, this is a very powerful supervisor to the same company's Pro 24 (the Arranger version of which has just been released, by the way), featuring high-resolution, 16 'arrange windows' each with 64 independent tracks. MIDI simulated effects (delay and echo) and score-editing of sequences, plus a separate drum-editing window with individual note numbers on each of the 64 drum tracks.

The demonstrator told me the sequencer will also sync to input from the instrument currently being played, but I'm not sure how this could work, it seems an enormous feat to expect of a computer. And I was surprised to discover that the sequencer will only record on four MIDI channels at once, which isn't really up to the task.

Cubel should fill the shoes of a hefty 68000, but there isn't anything radically new about the sequencer - it's just a well-conceived amalgamation of virtues from several systems, even down to the Mac font used in the screen display. Funny business, that, though it's nice to see the new Steinberg range appearing on the Mac and PC too...



MROS sampling

Also on show were the latest versions of the well-known Steinberg tools, including the M1 Synthesizer editor. Rather more upmarket is Steinberg's Audion sample-processing software on the 68000. This is a 16-bit-resolution editing library and conversion facility. Audion offers 40 seconds of storage on a RAM-Mega 674 at a 44,1kHz sampling rate, time and frequency domain-editing with FFT, resynthesis, sample conversion between different samplers and sample rates, plus reworking between samples to transfer samples easily.

Audion runs under MROS and will



Swish operators: Steinberg had four products using their new operating system (MOS). The (left) sequencer is an upgraded Pro 24, while Audiotalk offers powerful sample processing

operate with an optional hardware board that raises samples at 12-bit resolution (even if they're hard in the 16-bit 10-pin), and has an AES/EBU interface for direct digital data transfer.

Last turnout least, Steinberg had the Muse three-in-one system, a hardware-and-software combination that also runs under MacOS. I saw much of it's filling the studio, pile of cheap new music scores.

Steinberg sport, there was little else. Hybrid A/Ds were showing the General generic editor, which allows users to design their own editors using graphical tools and Systems Exclusive assignments to cope with the growing number of MIDI-programmable devices.

They were also showing the first, official version of their four sequencers, for which no further upgrades are planned, new to the

range is Editrack, a revised version of their 60-track sequencer which generates and reads MIDI data and controls in software. The ADAP dual-track recording system was also on show for those with understanding logic managers.

And in Hybrid A/Ds, like Steinberg, are developing their own operating system, called Chace - there are few details yet.

Also working on an operating system are Dr. T, who call their Supermix. Part of it can be seen in Tiger, a DOS-style interface for the A/D programs which finally replaces the GUI environment they originally offered for reasons of speed. The trade-off now seems to be made against user-friendliness, but Tiger appears considerably faster than 68000.

Such problems do not trouble the Mac, however, and Pass-

Who to call

Steinberg's MOS should be relatively easy to find - most major music-tech stores carry Steinberg products, if you're having trouble, try London Soundworld, for details, contact David Steinberg, Oxford 367 390.

For Dr. T, Passport and hybrid products, try Data Computer Centre who also run a mail-order service. Contact JJ Supply Limited, 100 High Street, London SE11 5AB 020 3300010000.

The other products mentioned should be available from specialist retailers, but it is difficult with a lot of information.

port's Mastertrack Pro version 3 - soon on at 16-bits - now features 20 MIDI channels as priority and modern ports, plus extensively improved SMPTE control aimed at those synchronising to pictures. The latest version, fairly bug-free, is closely equivalent to the Mac, with ST, Amiga, PC and Apple II versions due within a year.

UK company Status were showing version 2 of Mastertrack, which is much-improved by the combination of sequencing and editing in one program. Supermix is also revised, and offers useful functions like suppressing unwanted notes which may occur when sequences are combined.

Putting on a brave show were new British developers, The Digital Muse, yet another company who found it necessary to write their own operating system. They were demonstrating a new sequencer, Muse - a fast, 100%-compatible program that they intend to expand by adding programs like score-writing according to demand.

But that knowledge of the ST, before it is not, there were other companies at the show, though I'm sorry to say their lists seemed oddly direct: the only one was the GSA, for which German company Grosse make an extensive range of MIDI software, including an MT editor just released. Unfortunately, they told me they don't have a UK distributor at present, which is a shame.

The machine I really expected to see some things with the PC - but I was disappointed. Still, the most bit of all I saw was a PC product, admittedly priced beyond reasonable means. I'm referring to the three score-writing and publishing system, which comes complete with a dedicated Chameleon graphics board and a truly wonderful gas plasma screen, a 1024x1024 (about £2,500 - just a guess, that is).

So that was Frankfurt a formidable amount of equipment in a fabulous environment. My overall impression was one of consolidation, of various manufacturers trying to come up with some combination of facilities that will give them a competitive edge in the market.

More power, more channels, more tracks and higher clock resolutions were the first order of the day, with variety in user interfaces coming a close second.

But I wonder if the user's best interests are really being served. So much money has to be invested in these state-of-the-art packages that it's difficult to make important choices, given the appalling quality of most developments in price.

Still, there is one benefit to those of more modest means and aspirations: as companies develop new programs, the obsolete code from earlier products often finds its way back onto the streets, repackaged at half the price. And there are always the interesting little independent developers, with a trick or two up their sleeve to rattle the cages of the big boys. I cannot overstate this.

■ Graham Daynes, a former Development Manager for Steinberg and Finlay, now runs a dubbing studio and writes for such magazines as Sound On Sound and CD Review.



Born British: The Digital Muse, a new UK firm, develops their own operating system for an ambitious product line called Muse

THE SKY'S THE LIMIT!

- WIN A HELICOPTER FLIGHT and
- MEET THE SILKWORM TEAM – thanks to
- THE SALES CURVE

T

he sky's the limit when you're a new software house – like The Sales Curve. They've recently signed major deals with a series of coin-op producers to release five major conversions . . . of *Silverburn*, *Genie Wing*, *Ninja Warriors*, *Taito's Continental Circus* and Sega's classic *Shinobi*.

And to mark the first of these releases – *Silverburn*, the two-player horizontal shoot-'em-up which received a smart 85% / 85% test issue – The Sales Curve are offering a prize that's really not far in the sky. Just by answering the four questions, you could win.

- A helicopter flight over London
- A visit to programmers Random Access
- An arcade romp on the machines The Sales Curve are converting
- Copies of *Silverburn* AND the next four Sales Curve titles as they appear, on your format

And ten runners-up will also receive copies of *Silverburn* and the next four coin-op conversions from The Sales Curve.

To enter, just answer the four questions on a postcard or the back of a test/envelope, scribble on your name and computer, and send the whole lot to: **SILKWORM IN THE SKY COMP**, TGM, PO Box 16, Lutterworth, Shropshire ST19 1DN to arrive by May 19. As always, competition rules as printed on the contents page are final – unless you want to fall out of a 'copter.

- 1) Which of the following would you not control in *Silverburn*: a) a plane, b) a bee, c) a tank?
- 2) Which of the following might you see in a fight over London: a) Buckingham, b) St Paul's Cathedral, c) Big Ben/clocktower?
- 3) Which well known arcade firm produced the *Silverburn* coin-op that Random Access are converting for The Sales Curve?
- 4) Tiebreaker: The Sales Curve's big prize has four parts. List in the 'and two' space, in not more than 20 words, which you think is the best and why.

Silverburn, distributed by Virgin Mastertronic, should be out now on ST, Amiga, Spectrum, CPC and C64

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The Games machine

REVIEWS



32 ■ VOYAGER

Ocean have got themselves another winner — and a well deserved one. 'Voyager' marks the first in what Ocean is hoping to be a long line of top-notch games, exclusive to the 16-bit machines. Jump in the 3-D tank and enter into battle on alien terrain!



34 ■ TYPHOON THOMPSON

Squashy sound, tiny graphics — but hell, are they well animated. Donark's new deal with American software house Broderbund has found there is a brilliantly addictive, simple, fun game. It's just like the good old days!

44 ■ VINDICATORS

Ten pages later and Donark have done it again! Here's this time with the first Tengen licence — Vindicators. A fast and colourful game with you in control of a lethal tank with an obvious objective — blow the b*****s up!

50 ■ BALLISTIC

From Psychoplas comes a future sports simulation — 60 different pitches for two players, the best way to play this version of death football, and 60 for a single player — it's a whole new ball game.

STAR UPDATES

38 R-Type (Amiga)
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Journey to the Centre of the Earth	50

Solid 3-D Tank Duel

VOYAGER

Ocean

Around the eternally beautiful ringed planet Saturn spin ten moons. Seemingly uninvited, these moons are in fact the home of the Rovic engine which is preparing its conquest of the blue planet Earth.

Eventually deep space probes, pick up signs of activity on the moons and relay it warning back home. With next to no defensive capability desperate Earth commanders decide to take the war to the Rovic.

The cargo ship *Storm* is despatched to the first of the ten moons, a solitary future tank on board with gunsmith Luke Grayles at the controls. One tank against an entire invasion force? Whatever the odds may be, Earth has no choice — attack or die.

Landing on the surface of the first moon Minus Luke takes the tank around the barren world. The Rovic have been busy. It seems, building strange structures and radar installations — only a couple of seconds sightseeing is possible before the first enemy tank spots the intruder and the pursuit begins.

The ultimate goal in *Voyager* is to reach the tenth moon Phoebe before the Rovic are ready to attack. The short term goal however is the total destruction of all 99 enemy tanks, hover fighters and attack vehicles on each moon.

Each moon has its own mixture of enemy vehicles. The first ten moons are patrolled by heavily armoured light tanks, mine-laying hover craft and other minor nuisance foes. Soon ever stronger and stranger enemies join in the fray. Walkers, double gun tanks, columns of the *Starfighter* staff, hover gunners, squatters, mystery craft and other cannon fodder gradually appear on each new moon.

The on board laser cannon is nearly always enough to destroy most tanks but when the foe is on an atomic smart bomb is quick and lethally efficient. Try keeping some in reserve for the later moons — you'll need them.

The radar used to hunt down tanks can also be used to locate equipment pods which give forth a variety of offensive and defensive tank add-ons — cameras, atomic bombs, radar jamming grenades, decoys and multiples provide a variety of offensive-defensive capabilities. A pod containing a plunger can also be found to transform the tank into an aircraft on the later moons.

Not all extras are readily available on the first moon — you have to progress further to find many of them.

When all tanks are destroyed the way gate to the next moon opens for a limited time. Fly safely through to the other side to continue the battle and force the

Rovic to retreat.

Much more of an arcade game than *Starfighter 2* ever was, *Voyager* boasts the idea of a humble solid 3-D Battlerama beyond all recognition. Tank combat is improved tenfold with the addition of extra weapons requiring tactical and strategic use.



STANDART : 03 03 12 138.
CRAFT : DROP SHIP STORM.
CLASS : 2.

DESTINATION : TANKS (1ST MOON OF SATU



machine

TOP
SCORE

A difficult game to fathom

THE DEEP

LSI Gold

Nothing is to with the movie based on Peter Benchley's novel, killer whales, sea snakes, jelly fish and Jacqueline Besset in a wat'ry tale don't even get a look in. The game is, however, a conversion of the coin-op of the same name from obscure arcade manufacturers, Videoplace.

Enemies in *The Deep* come in disappointingly conventional form — a variety of submarines. Nevertheless, they're more than a little dangerous, and should be stepped before they invade the goal of LSI of A, or something equally monstrous.

The game shows a cross-section of the sea, its rocky floor at the bottom of the screen. Near the top, you guide a ship on the surface and release depth charges from it to

destroy subs. Some release pods; collect one and a helicopter is summoned which drops an add-on device. Homing missiles, submarine pods, mine speed, smart bomb and increased depth charge power are available.

The game is formed from three short scrolling levels. At the end of each, a submarine pod is guided to collect a token from the sea bed. When three have been collected, an enemy mothership threatens.

In stage two, a ship slowly approaches. You have a short time to stop it with a projectile whose launch angle is determined by the fire button.

A peaceful convoy must be defended in the third stage; missiles are launched from the sea bed towards it and, in Missile Command manner, you use a cursor to halt them in flight.

The whole coin-op consisted of just three scrolling stages with a mothership at the end of each. Though in the conversion LSI Gold have added some new features and stages, the game remains an unexciting whodunnit of old ideas.

The concept may indeed be as playable as it is dated but out-and-out damage has never looked so good. The 3-D environment brings new life to the ideas of tank-busting action and with it comes a whole new depth with different weapons to use. The introductory sequence sets the scene with the storm dropping the tank onto the surface.

You against a massive enemy force and the fate of Earth hanging in the balance — prime material for a great book and *Voyager* is it.

Call it outdated if you will, but Voyager, with its solid 3-D graphics brings new life to tank blasting action on the 16-bit machines — all foreign screens.

£24.99

ARCADIA
92%

The Jonathan Dunn title track enhances an already score-setting soundtrack, the graphics moving with senior fluidity but all the better with a slight increase in speed and stronger sound effects.

£19.99

ARCADE
91%

Solid 3-D is rapidly becoming a natural for the ST, the tanks move speedily and with very smooth animation. The tanks are detailed enough with correct building blocks per graphic, and they change dramatically with each move.

OTHER FORMATS

A PC version is planned for June, priced £19.99 and should run slightly faster and look much the same (the graphics pending use of VGA and VGA, the speed dependent on the machine in use).



£24.99

ARCADIA
38%

Faster than the ST version so a little more playable, there's still not much to the game. The sound is obviously better, but an endless sonar beep and unchanging explosion effects can

£19.99

ARCADE
38%

Graphics are a little lacking in detail and sprite movement could have been smoother. The use of bands to give an illusion of watery depths is weak to say the least. Swimming is a bit jerky, and like ship movement, is rather slow. The sound effects are sparse.

The graphics differ, as you would expect, between versions (Atari ST above), but essentially the gameplay hasn't been updated since north of the earliest 1988 Spectrum fare.

£9.99

£12.99 disk

SPECTRUM
41%

The stretch of sea depicted on the Spectrum is extremely polluted — it's pink black! Your ship is also black, which makes the game ugly to begin with. The sea bed scrolls adequately but the subs look dead and there's some ugly attitude clash.

OTHER FORMATS

Commodore 64 (£9.99 cash, £14.99 disk) versions are out now, with PC versions coming soon (£19.99).

Aquatic sport and mayhem in deepest space

TYPHOON THOMPSON

in SEARCH FOR THE SEA CHILD

Broderbund/Denmark

Many readers may be too young to remember an old, old classic game from Broderbund's original software range. Chopper put you at the controls of a specially designed helicopter sprite which was used to rescue men while blasting enemies. Simple, but great fun. Now the creator of Chopper, Dan Golin, releases his latest work in the L&L, hopefully the first in a long line of adventures for reluctant hero Typhoon Thompson.

A planet whose surface is covered entirely in water, Aquar lies in the Omega sector of space. Long ago a human civilization milled around its aquatic highways and byways, but Aquar is now devoid of all humans — except, perhaps, one.

In February 2124 Flight 999 plunged into the barren tropical waters of Aquar. Three search parties have explored its currents and, to the best of their ability, its vast depths, in the slim chance of rescuing survivors. All three parties became victims themselves of the curious little creatures known to humans as sea sprites.

A faint signal still radiates from the sea world, however, a signal indicating that a human child still lives. It is suspected that the child has been adopted by the sea sprites and the last rescue mission is to be undertaken by one very special man — Typhoon Thompson.

As you join his adventures, he is forcibly drawn from the safety of a flying saucer by a galactic cap, to land with a bump at the controls of his Jet-Sled. In the game, you control the hovering aquatic vehicle and its weaponry.

Your first destination is the outpost of the aquar guardians, your only outside help. They give the sled additional weapons to supplement the standard laser cannon and tell you which magical artefact is the aim for each of the first four levels. These special objects are essential if the child is to be saved.

The main objective is to capture of the sea sprites living in islands grouped together to form a village. A sparkling light indicates that an island is occupied. If blasted, one or more (depending on the level) of their flyers appear. If they in turn are shot, a sprite is released, falling into the sea, ready for collection.

The stricken sprite has other ideas and begins to swim away for all its worth. Typhoon can, if he's quick, zoom in to pick it out of the sea and pop it in his sack. Dangle too long though and the sprite turns into a fish swimming and leaping back to the safety of its island.

Once all sprites are in the sack, just go to

the Treasury Dome in the center of the watery village. Here a wonderfully animated but very angry sea sprite gives Typhoon an artefact in exchange for the captured sprites.

Once Typhoon gets back to the Guardians with the artefact the ghostly flyers give out two a new weapon, an artefact and a command to find the rest of the four artefacts.

With each new level the number of sprites to collect increases dramatically and the fight becomes even deadlier — some can destroy one of Typhoon's five jet-



Typhoon Thompson may like to think himself a tough guy, but when it comes to balloons, well...



sleds while others are more vicious and kill Typhoon himself. Death or loss of a single means going back to the Guardians for a new one (which is taken out of Typhoon's reserve stock). The child is gone for good if Typhoon runs out of jet-sleds or lives.

After recovering all four artefacts, it's a simple matter of releasing the child from the sea sprites...simple?

In essence Typhoon Thompson is straightforward but not much depth (no pun intended). Some of the most playable games are like this, and Typhoon Thompson is one of the most entertaining and playable games around at the moment. The jet-sled is a tricky vehicle to ride but takes only a little practice to master.

The infectiously addictive and pleasantly simple gameplay overcomes game's lack of



VERSION UPDATES

AMIGA

Ball

PSYCLAPSE \$19.95
Ami ST \$75 — TGM010

After the quality of *Ball* on the ST, Psyclapse steer a rocky course with this conversion. The replacing of the excellent ST sampled tune with a jolly but inappropriate 'hoosey' track is acceptable, but the Amiga's colours aren't used and the game's overall appearance is dull. Poor presentation has led to a much lesser game at round.

TGM update: 60%

COMMODORE 64/128

Action Service

COBRAH/ST PRO/GRAMS

£9.95 box, £14.95 disk
Ami ST \$65 — TGM015, PC 286 — TGM016

Watch out soldiers! Each successive version of this awful game is worse than the last. Having endured ST and PC versions, we're now presented with the bloated, poorly animated Commodore 64 game. (Coversome simple effects are the only sounds and control response is no better than on the 16-bit versions.) Let's hope this is the last of this intensely dull product.

TGM update: 24%

AMIGA

Zany Golf

ELECTRONIC ARTS \$24.95
Ami ST \$25, PC \$75 — TGM017



The Amiga version of this Star Player wacky ball n' hole game has the same nice, colourful graphics style as the ST. The sound's been improved with some original quality voices adding humour to the funny, while gameplay is unchanged, giving Amiga gamers plenty of competitive, addictive and silly fun.

TGM update: 64-65%

COMMODORE 64/128

Last Duel

US GOLD \$9.95 box, £14.95 disk
Spectrum \$25, Amami \$65, Ami ST \$65, Amiga 70% — TGM018

The scoring on *Last Duel* is slow and a little juddery, the backgrounds are simple and blocky and sometimes offensive to the eye. The sprites are adequate but the effect of the three-wheeled vehicle jumping is pathetic, and the two-player element adds little to this, the weakest of all the versions.

TGM update: rating -40%



Incredibly and irretrievably cute, *Typhoon Thompson* is the kind of game which just makes you wish you had bought an ST — Amiga owners will have to wait!

scope. Even if you do rescue the child a reasonable fast in itself, the very large temptation to try again just doesn't go away. Technically brilliant and brilliantly simple, funny and very clever, it's a classic game.

OTHER FORMATS

No word yet on any other versions. An Amiga game would be easy enough to produce and 8-bit conversions should be easily possible.

with ST
90%

£19.95

Typhoon himself smacks of distinctly Ludovician influences and has his own charm and persona. David Burnett's lively, amusing animation injects a superb sense of humour into the tiny characters. Watch the Treasury Sea lights when he emerges to meet *Typhoon* to see what we mean. Graphically, technically and in presentation *Typhoon* is so slick it's almost unreal. A 'just-one-more-go' game par excellence.

The ultimate space shoot

R-TYPE

Electric Dreams ■ Amiga £24.95
Ami ST \$25, Spectrum \$25 — TGM019

This is the ultimate home computer conversion of Irem's biggest hit on the R-Type turns out very very close indeed to its arcade original and lacks nothing of the coin-op's presentation, gory graphics and playability. Arcade addicts may find the square screen dies marginally less manoeuvring space, but the game's all the more challenging as a result of it. If fruit can be found (and you'd be hard to push) then maybe the sound could have been better, as the tunes stand they're good but they don't push the Amiga. This is a superior and very slick shoot-'em-up.

TGM update: rating 80-85%

machine
**STAR
UPDATE**

From arcade to PC Engine, 8-bit to 16-bit, R-Type succeeds, but never better than on the Amiga



Minding your R's, P's and G's

Y's

Sega

Until now role-playing games haven't rocked on the Sega. *Minstrel Warriors* was a weak mixture of simple game ideas and *Golden Axe* isn't applicable with its strong arcade overtones. Y's brings out the true classical elements of role-playing.

The hero of the hour, Aeon Christian, finds himself stranded in a strange land following a shipwreck. The nearby town of Minos is the starting place for Aeon's adventures and it's here that the adventurer or learner of the six magic books of Y's, books of incredible power which, if all are found, could be used for catastrophically evil purposes.

Tales are told around the village of an evil sorcerer called Goli who's searching for the books. No-one wants to take him on and it takes him centuries for the land and its people unless someone can come to their aid — Aeon.

From Minos Aeon can set out to explore the land, but courage and a thousand gold



pieces just won't do to survive the perils of the wilderness and beyond. Around Minos, leaders buy and sell many an object: armour, weapons, food and miscellaneous items are all available to those with money.

Secret clues, red herrings and advice can be obtained from the locals in the pub or alternatively people wandering the streets.

Eventually Aeon meets Goli, the Sorcerer and it's here that the adventures really begin — Aeon ventures out into the wilderness and the surrounding lands collecting villages, a temple, a mine and

other sites rich in adventure.

Somewhere out in the dark land lies the first three books of Y's. The other three are a little harder to obtain. Goli has got them and the way only to get them is to enter his Tower of the Doomed. His role-playing game would be worth its salt without the spice of combat. Aeon can arm himself with swords and other weapons but even the enemy just outside Minos are tough nuts and bolts avoided. Later on secret powers and new weapons help in the task if he lives long enough.

Like *Minstrel Warriors*, Y's also has a vital save/load function to back up your

A horizontal break-out

TITAN

Tetris

A Titan warrior has entered an alien complex — he aims to destroy the energy cells which occupy the many chambers from which the complex is composed. To do this, he has a high-velocity ball which he throws, bouncing it off walls and destroying the rectangular cells.

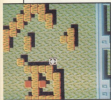
Sounds familiar? Yes, *Titan* is a variation on the ancient Break-Out theme, but with the important and major difference that the playing area scrolls. The ball (the warrior) can be moved in the eight main compass directions and the maze-like chamber-level



scrolls to keep it centre screen. The ball's direction is influenced by the ball's stroke and speed by the fire button. As well as obvious features such as blocks requiring multiple hits, later in the game aliens, solidifying blocks, one-way and ball-only gates are introduced, making the whole thing a lot more difficult.

The larger levels and more flexible play than a scrolling Break-Out allows Aeon to use a good idea at first, but the faults. *Titan* gains from this subgame the good points. The ball bounces around at high speed, leaving you chasing around after it like a madman. The ball's too small, and when you manage to hit the ball it reflects in a random direction — or at least, more often than not, a direction you don't want. And the backgrounds are a further distraction when quickly changing heading.

8-bit and 16-bit *Titan* differ with the Amiga's vertical screen format (left) and the design's landscape (above). But with the latter's colour software, you'll need to keep one hand on your joystick and another on your stomach if you're going to get anywhere.

AMIGA
38%

£24.99

Nice presentation — rippling water reflecting high scores, stone pillars and metallically shaded lettering — continues in some of the graphics' features, but a bright colour scheme and fast play means there is always a danger of vomiting over your monitor. Samples of tom-toms and similar percussive instruments are stream throughout, and the aural highlight is a classical singer warbling an ascending scale while the teleport is used.

AMSTRAD
41%

£9.99

disk

£14.99 disk

The screen size has been altered to a tall rectangle, a feat that would be more useful in the usual linear-orientated clone. The two-level graphics are pleasant if simple, but the garish colour schemes combined with fast direction changes spoil the overall visual effort. To its credit, the scrolling is very smooth and the gameplay is amusing for a while.

OTHER FORMATS

Commodore (£9.99, £14.99), Atari ST (£15.99) and PC (£24.99) are imminent, with a Spectrum version (£9.99) available in May.



Coming into its own, one foot RPG for the Sega — that it's here at all

bers. The battery storage is quick and efficient to use and a necessity if Ace is to be in with a chance of competing what is a truly deep and demanding RPG.

The Sega is really coming into its own with games like Y's. An almost cross-console competition would be with the Zelda games on the Nintendo and against them Y's compares admirably — in many respects the character detail and all-round presentation make it the better game situation, although the puzzles aren't quite so involved or devious.

90%

£24.95

The characters are small, equal and endearingly cute as they move around an extremely smooth-scrolling playing area. On entering buildings you're greeted by excellent close-ups of people enhancing the already rich atmosphere. Elements like this assure a success for Y's as one of the top-rank RPGs around.

SPECTRUM

Captain Blood

IMPROMISED £3.95 each.
£14.95 each.
Avalon ST 100% — TGM87

The Atteridge H R Ogar inspired organic spacecraft console doesn't lose too much in the translation to microcassette and, although grainy, the 3-D canyon sequences are effective. Hyperspace and planet-destruction graphics sequences are disappointing in truth, but Jerr's Book of Music is enjoyable enough and so's the overall gameplay. Unfortunately, Captain Blood is showing its age now.
TGM update rating 68%

PC

Deley Thompson's Olympic Challenge

COMAR 12495

Spectrum 100%, Commodore 64 75%, Amstrad 45%, Amiga 80% — TGM87, Avalon ST 100% — TGM87



The PC version, the other 16-bit versions, in using digitised Deleys and high overhead views in some events. With the relatively restricted palette of EGA though, black, green, red and grey make an unusually unattractive Thompson. This is too late to cash in on the Olympic spirit, and worse than US Multiplayer The Games: Summer Edition.
TGM update rating 66%

AMIGA

IK Plus

SYSTEM 3 12495

Avalon ST 100% — TGM87

TGM first looked at Arthur Morten's fast and furious beat-'em-up as part of our martial arts action issue. The Amiga game plays the same as on the ST, the only differences are the slightly more attractive sunset effect and some enhanced music. Gratuitous pool violence is especially good fun in IK Plus — a must for Amiga-playing fans of the genre.
TGM update rating 66%



A better quality of war altogether

WAR IN MIDDLE EARTH

Multimedia House ■ Avalon ST £19.99
PC £19.99, Amiga £19.99

Spectrum 100%, Amstrad 100% each, Commodore 64 100% — TGM87

While the 16-bit versions of War in Middle Earth failed to impress, the 16-bit conversions are a different cauldron of hobbit altogether. It has been enhanced considerably — had treasures and recruit

armies in this much more involving game. Raurin's armies are all but invincible, so the best you can hope for is to stem the tide long enough for the ring bearer to complete his quest. No two games are the same. Even when you've completed War in Middle Earth there is still plenty to do such as refining your strategies and collecting all the hidden objects. There's little difference between the three 16-bit versions reviewed here other than sound and some minor graphical differences, but the game plays just as well on all formats.

TGM update PC 66%
Avalon ST 68%
Amiga 67%



War in Middle Earth didn't fare too well on the Spectrum, traditionally Hobbit land, but on the 16-bit machines it turns out very well

Blood and bruises in the future

RENEGADE 3

THE FINAL CHAPTER

Imagine

With his girl kidnapped not long ago, his brother murdered by his big and now his girl kidnapped yet again, it's all panned for such for Renegade...now he seeks TOTAL vengeance.

But this rescue attempt isn't quite as easy. Renegade's girl has been spirited away by foes with a eye for in time travel. It just so happens that the Renegade has also discovered the secret and off he goes through the temporal void chasing his opponents back and forth. The kidnappers have made him real mad and they're going to pay for it in blood and bruises!

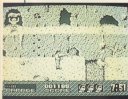
Renegade moves over right-wards mauling, kicking, crushing and maiming the opponents hoping to reach the next stage. Though if he decides he could get trapped in a time zone forever — and that's a mighty long time to spend thumb twiddling.

The search starts one million years back when dinosaurs ruled Earth. Cavemen, dinosaurs and egg-dropping pterodactyls assail the muscle hero as he wanders con-

tinued Renegade was good but the second sequel is so much more fun — gratuitous pixel violence is always a satisfying feature, and Renegade 3 just goes to prove it.



The untold mayhem continues with Imagine's third — and most enjoyable — Renegade: Commodore 64 above, Spectrum below left



ally through the level. The fighting comes to a head at levels and where we learn Renegade's legend's been spirited to ancient Egypt. The fight and time action continues through to 16 Old England with knights on hobby horses, jesters and dragons flapping around castle ramparts.

Following the trip around King Arthur's abode, its back to the future and beyond to space stations where robots try to fry our merry men.

Renegade 3 keeps with tradition, which may disappoint fans looking for several new ideas. The commission of a two-player option could have been a mistake, but would invariably have made the game far too easy — as it is it plays at just the right level.

The eagle versus the bear

BALANCE

Mindscape

If there's one game destined for immortality in the battlefield of strategy games it's Balance of Power. Subjected to many a request, plea and ultimatum, Chris Crawford has now produced a sequel, or rather an 'independent extension' of the existing program.

A simulation of geo-politics in the nuclear age, Balance of Power has you sitting in the ultimate hot seat in either the Kremlin or the White House. The goal is to take your nation through eight years of political rule without triggering World War III and at the same time maintaining and improving upon a strong political, economic and military presence worldwide.

Chris Crawford hasn't made the 1990 edition significantly different in execution, instead he's added a multi-polar level of play whereby the other countries now control their destinies. This increases the all-round game complexity to frighteningly high levels of complexity (the Rightmare level is nothing in comparison with this monster). If it all gets too much for add-ons are on hand at any time to provide

SPECTRUM
84%

£8.99
cass £14.99 disk

Judging by past experience Spectrum owners have little cause to worry about with high resolution screens throughout with bags of detail although anachronisms in appearance. The atmosphere of each period is brought to life with some great 128K tunes (the Egyptian piece is especially authentic sounding).

SPECTRUM
79%

£8.99
cass
£14.99 disk

Not quite as detailed graphics running around but colour is used well and the music is catchy. It doesn't quite match the Spectrum version for playability, and the overly-precise collision detection can be nuisance.

OTHER FORMATS

An Amstrad version should be out now at £8.99 and £14.99, with ST and Amiga versions (£18.99 and £24.99) released in June.

CARRIER ON STANDBY

Spectrum owners will just have to get their teeth until Carrier Command's release date is announced, because Realtime are improving the game yet further following some suggestions from our sister magazine CIBULE. Whenever it appears Carrier Command will be well worth the wait.



E OF POWER - 1990



their views on sensitive situations.

There can be no question about the depth and challenge of *Balance of Power* — the 1990 Edition is more of the same and is THE definitive strategy game with no exceptions. Cyrix, however, might say the 1990 Edition is too much of the same.

£24.99

Both ST and Amiga versions suffer from a lengthy delay while the computer works out all 80 countries' actions and as nuclear wars are very easy to initiate the same function is nearly always in use each turn. Graphically and especially, the ST version is exactly the same as the Amiga.

£24.99

Balance of Power isn't a game to show what both 16-bit machines can do when it comes to presentation. The use of colour is strictly functional and the no sound effects rule is odd at first but entirely logical. If you enjoy strategy there's nothing else which comes close. This is the ultimate strategy game.

Breaking the Spectrum barrier yet again

CARRIER COMMAND

Revised 128K Spectrum £14.95 cart, £35.95 disk



Ami ST 16K — T24001, Amiga 16K — T24011

It pushed the ST bit alone the Spectrum, but the Spectrum team haven't wasted their time. Andy Owens hasn't just converted the game, he's improved on the original 16-bit version in a healthy number of ways. Ever more advanced programming techniques have brought the game up to ST standards in speed although the graphics are obviously not as smooth flowing.

Unintentionally the sound effects work better than the 16-bit counterparts and lessons have been learnt. Similarly Dave Lazenby's musical piece neatly shows what can be done with the 128K's sound chip.

The carrier's lasers have been toned down making the game considerably harder, even the gameplay has undergone slight tweaking in places which improves playability and the game's fluid running no end. And there's the time acceleration option which ST and Amiga owners were crying out for. Well defined, neatly shaded solid 3-D objects, faultless presentation and gameplay which belies its 16-bit counterparts makes *Carrier Command* as much of a breakthrough on the Spectrum as it was on the ST — if not more. Brilliant.

TGM update: 90/90

machine
STAR
UPDATE

VERSION UPDATES

ARISTAR CPC

Airborne Ranger

MicroProse £9.95 cart, £14.95 disk

Commodore 64 50% — T24000

Spectrum CPC, PC 100% — T24004



This is much the same as the Spectrum version although the four colours in Mode 1 are rather gainfully implemented and the sound is limited to standard CPC spot effects. The strategic element is in keeping with MicroProse's previous games and assumes considerable depth of gameplay, but the overall presentation has taken quite a battering.

TGM update rating: 80/90

IBM PC

Knight Games

MasterTronic £2.99

First on the Commodore 64 over two years ago, and still a novel sports game, *Knight Games* endows the relatively competition-free PC arena, EGA and other colour modes create a pleasingly atmospheric looking game despite the odd knight animation. Out of the right awards on after all but two take the form of one-to-one combat, repetition follows and it's left to the programmer and techy events to provide anything more than short-term appeal.

TGM update rating: 50/90

Amiga

Afterburner

Activision £24.95

Ami ST 17K, Commodore 64 50%, Spectrum 100% — T24010, Amstrad CPC 100% — T24011

Simply acceptable on the ST, the Amiga version looks much the same although the somewhat muted look the game, all is a good start. The jet banks faster than on the ST but still rolls awkwardly. The worst thing about *Afterburner* is that not the speed or graphic quality of the air-war is captured in the movement, and without either the game doesn't come over too well at all.

TGM update: 80/90



Raffaele Cecco does it again, and again, and again...

STORMLORD

News

Raffaele Cecco's latest game has been long and eagerly awaited by 8-bit owners. But his most famous work is *Cyberlord*, but his credits also include *Copout*, *Solomon's Key*, *Baphur* and *Extron*.

Classed as something of a sequel to *Extron*, *Stormlord* takes place in the dark regions of a mythical medieval time rather than the speculations of the unknown future. The Realm of the Mighty Stormlord went about its business peacefully and diligently, and for many years its people were happy with their humble lives.

The Stormlord had ensured protection from outside forces, and rule.

The Queen of Evil has infiltrated the Realm, and captured many magical fairies who helped protect the land. Now, its defenses in tatters, the Realm has been overrun by all kinds of nasty creatures — the minions of the Queen of Evil. Stormlord's people are in a desperate state, unable to defend themselves from the noisier, greedier attacks of the Queen's demonic beasts.

Naturally, as the leader of both the community as a whole and the peace-keepers who watch over it, it is Stormlord's job to visit the land of demons, before it's too late. The fairies must be freed from their cages and any beasts encountered slain, so that peace can once more be the land's guiding influence.

Stormlord is controlled by running and jumping along a horizontally scrolling landscape, composed mostly of platforms. Grapes, leaves, acid rain, eggs which release giant insects, pearls and other beasts attempt to damage him, but he has an ever-lasting supply of swords and incendiary devices with which to preserve his

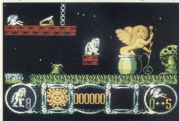
eight lives.

To avoid a long slog these are springboards to catapult him high into the air and take him rapidly from one location to another — hopefully a place where a fair can be rescued. Objects such as honey-pots, keys and umbrellas help access to

like the actual levels, this is done against a time limit.

Well, like Cecco has done it again. There's nothing new or particularly special about *Stormlord*, yet it is highly playable from the minute you pick up the joystick. It's by no means an easy game, either. Considerable practice is needed before the second level can be reached, and even then, the first level can still prove to be a problem.

Simple gameplay hides behind glossy presentation, but really this proves that the more straightforward the play, the more addictive the game. Although often frustratingly difficult, *Stormlord* has you going back time and time again to collect just

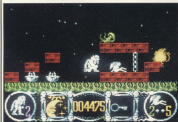


Gaming elements masketh the man: Raff Cecco's long association with the Spectrum pays dividends again in exciting *Stormlord*.

otherwise hard to reach areas.

There's a bonus round in between levels too, where Stormlord blows bubbles (small heart shapes) at a number of dancing fairies and in return they drop tears which can be collected for points. Unfortunately,

those two or three more fairies that will complete the level and help restore freedom to The Realm.



SPECTRUM
86%

£7.99

£8.95

£14.99 disk

The backgrounds are well defined and cleverly shaded, and scroll smoothly as the herolessly down Stormlord stomps along. The varied and amusing enemies are equally cleverly animated, well done high flames for some great graphics. The quality effects (including an amazing wall-whistle when Stormlord lands on a statue), lively jingles and good, lively music round it all off nicely.

OTHER FORMATS

Connectors 64 and Amstrad CPC versions (both 640k cassettes, £14.99 disk) should be bounding off springboards as you read this. ST and Amiga version release dates are unknown as yet, but both are likely to be £19.99.

100

Figure 1

the threat of imminent destruction and the stress of high-g maneuvers you take in your vehicle. Your training perfected, you are now master of all the rules of the F-16. From air-to-air interception to precision strike.

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Over San Francisco by day and night

JETFIGHTER

Velocity

Jetfighter is actually the Amiga simulation Interceptor on the PC done by original programmer Bob Christman.

In command of a jetfighter, you're going to get up there in the red blue jander. Why then are you sitting waiting on the dock at the canyon? Controllers just outside San Francisco Harbour?

Orders, your commander said. Missions are being around just off the coast and there could be trouble. With the situation likely to flare up in a matter of minutes you're on standby, waiting to take to the air and defend the good of United States.

Expanding on the Interceptor theme, Jetfighter allows for control of not only an F-10 Falcon and F-16 Hornet but an F-14 Tomcat as well, complete with its swing-wing capability. An IL2 system has also been added along with more missions and air-to-ground weapons.



Amiga Interceptor on the PC

Simulation fans who have seen Interceptor will recognise just how close it is to Jetfighter, although there are several extras in terms of missions and overall gameplay. Although Jetfighter doesn't quite come into F-16 Stealth Fighter's league — even though it's faster — through the



From the title screen each area of flight and jet control can be fine-tuned. Independent missions can also be undertaken but to qualify for these four potential career landings must be accomplished — two of them at night.

Once qualified you can then undertake the various missions — ranging from intercepting rogue aircraft to escort duties and even attacking with unguided bombs.

INTERCEPT SPEED

The tougher requirements for qualification are heightened by the speed at which the PC game moves. The faster the PC, the tougher it all gets. Owners of 386- and 386-equipped PCs watch out — this game is fast!

inevitable sacrificing of graphical detail, with an incredible 32 missions there's a wealth of depth and the combination of simulation and action works very well indeed.



£39.95

If Jetfighter had been available before F-16 Stealth Fighter, it might have had more impact. The planes have the detail and the speed is there but without more areas to fly around the realism can only be pushed so far. San Francisco can get safely leaving alone while. Another drawback is the price, which might be okay in the States, but is a bit steep for the UK market.

VERSION UPDATES

AMIGA ■ AMIGA ST
Roadblasters
US GOLD £19.99
Commodore 64 47% — TGM112

The all-important driving effect works well on the 16-bits, but better on ST (pictured below) where road movements are fast and objects and vehicles move past quickly enough to be satisfying. On the Amiga the minus is a restricted number of roadside objects



which negates the illusion of speed. Added to that the graphics are pretty basic to say the least. This is not the definitive race-and-rage game we were all expecting but an acceptable offering for fans of the coin-op.

TGM update: Amiga 60%
Amiga ST 72%

AMSTRAD CPC
Tiger Road
US GOLD £9.99 (also, £14.99 disk)
Amiga 10% Commodore 64 60% Spectrum 40% — TGM117

Amstrad games nearly always have the best of both worlds with a wealth of colours and the playability of Spectrum counterparts — a pity in this case as the Spectrum version fell flat on its face. If you accept the blocky graphics and at times messy use of colour there's some evidence of a good race romp within, although it may not look it.

TGM update: 62%

AMSTRAD CPC ■ COMMODORE 64/128
SPECTRUM
SDI

ACTIVISION at £9.99 (also, £14.99 disk (not Spectrum))
Amiga 50% — TGM114

SDI's midling coin-op may have already come across relatively muted on the ST but on the 280 machines the heart of the game takes out entirely with no background graphics, a spate of in the offensive stages and no dual-player option (two players take part alternately). The Amstrad game suffers very badly with less colour than the Spectrum version.

The Commodore version fares a lot better, with neat backgrounds helping to boost gameplay. Without the coin-op gloss the similarity of each level brings very repetitive play with it, especially on the Amstrad and Spectrum.

TGM update ratings:
Amstrad CPC 30%
Commodore 64/128 54%
Spectrum 37%

Tanks a lot, Tengen

VINDICATORS

Tengen

Spinning through the quietness of space near Galaxy 10815 is 14 space stations. The good and even-so-evil Tengen Empire owns the lot and from them comes a rather large and very nasty invasion force.

Sensing the potential threat, Earth sends a tank-carrying mothership to the area loaded to the brim with weapons. The mission? What else but mass destruction!

Once onboard the first station the SP-48 attack tanks get down to business. Unfortunately, it seems the enemy isn't in the mood for making deals — to put it nice a point on it they're out for blood.

Vanquishing the Tengen Empire and its alien commander is the ultimate goal but to do this the control centres in each of the space stations have to be vapourised.

Each station is covered with deadly tanks, gun turrets and hoverships, all increasing in power, speed and effectiveness with each new level.

The security may be tight inside but the enemy are still rather careless, having left spare fuel pods around and Battle Stars to pick up. The former keep the tank going, the latter's used for tank customisation at the end of level. Using Battle Stars as currency makes powerful weapons, shields and tank add-ons can be bought. Special weapons can also be bought for use against tougher opponents.

Trundling along vindicating all who dare



challenge is the way to victory. To progress the key to the next floor of the station should be found. The first floor contains the control centre. Just get the keys, destroy the control centre and get out of there before it all goes up — easier said than done.

It's amazing how dramatic a transformation a coin-up conversion can undertake. The arcade machine was a surprising dis-

appointment with its fairly standard gameplay, but this type of game is ideal for the home computer.

With its dual-player option, weapon-upgrading strategies, 14 stations and three skill levels there's enough of a challenge here to keep you playing for literally days. Highly addictive, highly playable, highly enjoyable — simply a superb conversion from Tengen.

A sting in the tail

SCORPION

Digital Magic Software

The amazing Checkmate based software house Digital Magic Software are likely to stay largely unknown if the plot for this shoot-'em-up is anything to go by. It concerns this time of the parhel (Scorpion) has been captured and held at the end of five monster-filled levels. You know what to do.

Time does not apply in Scorpion, and the backdrops are pretty weird and wacky. Firing energy bolts from your fingertips as you run and jump along, power can be built up by picking up weapon icons. You need to because the huge end-of-level guardians take some beating.

Five levels don't make a huge game these days, but Scorpion's are of considerable size, making each one a unique challenge. Difficulty is also increased by the

sometimes reluctant control response, awkward positioning of platforms and every tough and evasive adversary. Ultimately, frustration must dictate a limited lifespan for this product.



Weakly, colourful scenes disguise the sting in the tail — fast collision detection which helps create fluidly and freewheeling gameplay.

machine

STAR PLAYER

PRICE 62%

£24.95

Smooth scrolling is the game's greatest attribute; definition and animation is quite sloppy (the Scorpion warrior looks like he's carrying a sword), with only a few graphical highlights. Sound is a selection of unmemorable and occasionally irritating samples. It all adds up to 'almost but not quite'.



\$19.99

STAR OF
88%

Not the most inspiring of coin-ups, *Windchillers* has nevertheless come over incredibly well as a computer game. Smooth scrolling in a large playing area, digitized explosions and some ace sound effects make *Windchillers* not just a superb conversion but a real fun game to play. Tanks a lot Tengen!

OTHER FORMATS

Commodore 64 (\$9.99 cash, \$13.99 disk) and Amiga (\$19.99) versions will be available soon. A similarly priced PC version is also planned.

A brilliant debut coin-up conversion from Tengen guaranteed to attract-1 even the discerning arcade crowd and make them put money into games rather than slots. Both screens from Atari ST

\$9.99

AMIGA
89%

CASH
\$14.99 disk

As fast, if not faster, than ST and other video versions, it has a slightly larger playing area. The graphics and presentation are great, and the scrolling is the smoothest yet seen. The fact that it compares so well with the arcade machine is proof of Console's talents and also the Amstrad's much under-rated capabilities.

Human Killing Machine

US GOLD \$9.99 (\$14.99)
6-1st (\$3.99 cash, \$14.99 disk)
Spectrum 14% — 705011

The Street Fighter trend continues with H&K M but Taito have made little progress in creating new gameplay changing no more than the graphics. The backdrops are different but little improvement over the previous game — the ST version having slightly better definition than the Amiga game, although across all versions the characters suffer from a chronic lack of animation.



While the Amiga game offers a better challenge with very hard opponents to defeat, on the ST and Commodore the challenge is negligible since the best of the limited moves is learnt (on the Commodore the flying kick, on the ST the crouching punch or kick). On the Amstrad there's a better defined level of playability than in the C64 and 16-bit version and if it wasn't for the puny sound software used it could have been up there with the Spectrum version.

TGM update ratings: Amiga 36%
Amstrad 83%, Atari ST 34%
Commodore 64/128 38%

AMIGA

Hacker

MASTERTRONIC \$9.99

A come-down for the Amiga, *Hacker* turns out as nothing more than a slightly refined Commodore version. A

smooth 16-bit movement around the levels is apparent and some of the peripheral screens are attractively done. Despite its underlying similarity to the 64 game in graphics style and basic sound effects, *Hacker* is an intriguing puzzle-explorative game and stands the test of time well.

TGM update rating: 55%

SPECTRUM

Superman

TIME-SOFT £7.95 cash, £14.95 disk
Commodore 64 38%, Atari ST 43% — 704910

Superman's familiar red and blue costume is exchanged for open and black in the Spectrum game in a 3-D space where style landscapes which possess slowly and jerkily. Character movement is also slow, as is the control response — which means you have to be before the enemy is actually in your sights. This is an offence that definitely isn't superannated.

TGM update: 34%

Plumb the labyrinthine levels of the awesome

DUNGEON MASTER

FTL Games/Miramirco ■ Amiga (\$24.99 — 100) only

Atari ST 96% — 704908

Probably the ultimate in computerized role-playing game reaches for Amiga. And now if you don't have 1 meg of RAM because you won't be able to play it. An A500 version is planned for the Summer but until then owners of big standard Amiga's will just have to dream.

Graphically there's no change but the game and its monster atmosphere is defined dramatically through repetitive use of the Amiga's stereo system. Distinct footsteps providing unknown horrors get the old tickle beating double-time, the tension rising with each new step and the very shadows themselves become potential monsters.

FTL have gone all out to provide results everything to do with classic fantasy RPG all in one game. They've easily surpassed themselves, but it's unbelievable just how good a job they've actually done and how well it all works.

There's something in the game for everyone, with action-adventure, fantasy puzzles and great depth. *Dungeon Master* creates atmosphere and shouldn't be missed by any self-respecting RPG fan.

TGM update: 99-94%



Haven't we seen too many loopy management sims?

KENNY DALGLISH SOCCER MANAGER

Cognito

Kenny Dalglish is strangely missing from the loon menu screens from which the game is run with mouse and pointer. The main menu, like the others, has six large icons. The leagues' team and player names can be altered, and saved/loaded along with all current division positions. Race Cases determines the level of detail of the data involved.

A boardroom option presents six faces which can give information on various aspects of the player's selected club's features: the chairman, accountant, physio, coach, bank manager and a talent scout all give brief reports in areas relevant to their interests.

League Table can be a source of grief starting, as the team sits, near the bottom of the fourth division, but the situation can hopefully be eased with the hiring of the team. The skills of the current squad are assessed under First 11 — for each



Attractive graphics hide a desultory football management sim



As far as a celebrity licence goes, this is similar in execution to Peter Dinkley's international Soccer Grandstand — till Dalglish's face is spread around the packaging (as Dinkley's was) but for otherwise missing. Surely he could have appeared within the game, commenting or advising via speech-bubbles?

We've seen this sort of game many times before and there aren't any new features to excite, while match interludes are pointless. Sorry Cognito, but Kickoff Manager still reigns supreme.

URGENT STOP PRESS!

AMSTRAD CPC

Barbarian II

PALACE ■ £59.95 cassette, £14.95 disk.
Commodore ■ £19.95 cassette — Vindex Am Str 486.
— (12607)

Hazel Wapiti Thesauri: Choose to play either the barbarian or Princess Marietta and slay your way through the Woodlands, the Caverns, and the Dungeons, before arriving at the Inner Sanctum of Max. All the classic phantasmagorical of the 16-bit versions are here, with real defined Sauron beasts, Neanderthal men, apes, mutant chasers, singers, giant

grubs and all the rest putting in a very acceptable appearance.

This is a well-represented version of the game of near-classic proportions. More attractive than the Spectrum version with a rich use of colour and solid-looking graphics, the sound might be a little disappointing but that's par for the course on the CPC. This is a must-buy for Amstrad owners.

TGM update 78%



**AMSTRAD
64%**

£19.95

The various icons are big, bold and colourful, as is the stadium background. Nothing is particularly well drawn, although the boardroom inhabitants have character and their Pictograph engineers provide a nice touch. A soundtrack of some description might have helped dull gameplay.

OTHER FORMATS

An Atari ST version (£19.95) is available on this issue reaches you. Commodore 64 and Amstrad CPC (£9.95 cassette, £19.95 disk) as well as Spectrum (£7.95 cassette, £19.95 disk) versions will all be released shortly.

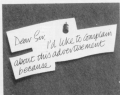
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Rock Star?



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DTP

Woolbeasts dwell

ALTERED BEAST

Sega

The Sega Mega Drive shows off its superb coin-op conversion capabilities with *Altered Beast* (see TGM117 Report), but until it hits the UK we'll have to make do with the good old 8-bit version.

In this game your on-screen alter ego is a resurrected corpse. Resurrected by a powerful godlike being whose daughter has been captured by an evil mage, this feisty corpse has been put together to rescue her.

The job's not an easy one because the mage has used his powers to create a variety of monstrous beasts — unicorns, bears, flying reptiles, head-bugging amphibians, giant anteaters and other conifers.

A well-aimed blow from fists or feet deals with all these monsters, and one particularly worth mentioning is the alien suit. This two-headed canine creature is a spirit ball which, when poked up, turns you into a highly developed scorpion. This power can be further increased by collecting a second ball, which transforms you into a werewolf.

Flame-engulfing powers are required for the truly nasty end-of-level monster, who is in fact the mage in altered form.

Altered Beast in the arcade and on the Mega Drive is a most enjoyable hunt, particularly in two-player mode. With only a single-player option available on the Sega, playability is instantly reduced. The scrolling and walking is slow, transforming

the pace of what was originally a hectic game. A middling conversion of a nice coin-op.



£24.99

88%
43%

The hero, in all his forms, is very nicely defined and coloured but poor animation spoils the effect. Other sprites are less effective and the mediocre backdrops crawl slowly and jerkily. Plain music fails to generate any tension and the few samples are not that convincing.

AMIGA ■ STAR 37
COMMODORE 64/128

Run the Gauntlet

OCEAN Amiga £24.99, ST £14.99, 8-bit £9.99 cash, £14.99 else
Spectrum 48K — £14.99

Commodore fans, if it wasn't for an annoying medieval Ocean could have cleaned up. Sports games move relatively well with good definitions, if lacking detail. The spray from boats and jet fighters adds their own bit of authenticity to the action. The level sequences work well too, simplicity of control method serving as the key to its success.

The 16-bits get the chance to show off with digitised pictures in between levels and sampled music to keep the game pace up and running. Had the gameplay been less 8-bit oriented, *Run the Gauntlet* may have offered quite a bit more in the way of depth. Attention to detail isn't very enhanced over the Commodore version — crisper sound effects and the odd better sample on the Amiga than the ST are more formalities rather than significant improvements.

The lack of a dual-player option is something of a setback but *Run the Gauntlet* is still a great sports sim. **TGM update: Amiga 88%, Atari ST 80%, Commodore 64/128 78%.**

AMIGA

A Question of Sport

ELITE SYSTEMS £24.99
Spectrum 48K, Commodore 64 8%, Atari ST 42% — £24.99

The nature of seven digitised portraits and colourful screen borders is identical to that on the ST, and unfortunately to the more than mediocre sports sports questions vaguely linked to it. To programme, *A Question of Sport* is distinctly overpriced. **TGM update: 37%.**

Hewson's hit action game goes 16-bit

CYBERNOID 2

Hewson ■ AMIGA £19.99, Atari ST £19.99
Spectrum 48K, Commodore 64 8% — TGM112
Atari ST 42% — TGM112

Those *Cybernoid 2* ships have been presented yet again — this time on the 16-bit. Tony Cooper has kept the ideas of the original 16-bit *Cybernoid* but gone to town on the presentation, action, challenge and alien-robotic carnage.

The nightmarish graphics feature blinking eyes, red-eyed skulls and other horrors. *Progression* is fuelled by ever-devising traps and the action just gets more chaotic with each level. New features include acid drops and new levels though gameplay remains the same.

As a game, on the Amiga and ST, *Cybernoid 2* resolves more around action blasting than the puzzle-action cross-breed of the 8-bits, and both versions look great and play superbly.

TGM update: Amiga 88%, Atari ST 80%.

Marshall hasn't looked so good for a long time — *Cybernoid 2* on the Amiga



A whole new ball game from Psychapse

BALLISTIX

Psychapse

Psygnosis and their label Psychapse get off to a good start with the brilliant arcade brawler *Maniac*, followed by the similarly trigger-happy *Star*, but topped with *Captain Fizz Mania* in *Blaster-Tom* (reviewed last month). Now they enter the much-exploited genre of future sports simulation, and, thankfully, they've departed with any ideas of a pretentious and pointless plot.

The game takes place on a vertically scrolling pitch approximately two-and-a-half screens in length and the aim is simply to score a set number of goals (between one and five) before your opponent does. This is accomplished by hitting a puck with a supply of metal balls, aimed directly by an arrow, which enjoys the freedom of the playing area.

As well as determining the target number of goals and control system, the options screen can also be used to alter ball speed between one and eight, the number of balls available, also repeat the rate at which balls are fired if the fire button is held down between zero and nine, ball lifespan (how long a ball is allowed to stay on the pitch) between one and nine, and games to win, between one and nine, for two-player games.

Silver and gold/black armor or custom compare against one another in a two-player game, while in a single-handed game, the pitch tilts toward the player's goal, making gravity the enemy.

Progress is helped or hindered by pitch features which are introduced through the levels. Arrows accelerate the puck in the indicated direction, pits are revealed which, like acid puddles, mean the puck must be manoeuvred into the arena. Contours, hyper-space tunnels and bumpers affect the puck's path, rooms to be poked up can spread its balls all over the pitch, create a temporary barrier in front of a goal, spell out the word

RECOU-ET for bonus points, affect player's controls and so forth.

People have been known to instantly cry 'Speedball' to-off when they see this game, but apart from sharing vertical scrolling they're very different from one another.

The crosshair control method is tricky but adds something to the game when you're properly accustomed to the easier arrow mode. This is not without its problems, though, because the arrow always points to the ball, when the puck is near your own goal it can be easy to knock it in yourself.

Criticism aside, *Ballistix* is a fast, fun game, particularly with two players, with a wide variety of pitches (30 two-player, 10 two-player, the starting pitch selected in multiples of five) and a range of variable attributes — and of course, goals to pick up.



SAVE IT
84%
£19.95

Apart from different cursor designs, this is visually indistinguishable from the Amiga game, although there is slightly ostentatious presentation in the form of spinning 3-D pyramids and STs on the credit screens.

Back on top: Psychapse hit the mark again with a hugely enjoyable future sport game for the Atari ST (top and below) and Amiga (below left).



SAVE IT
84%
£19.95

A high-res picture unfolds impressively to introduce the game, which has quite disappointing graphics. The best-kept pitch tiles (which vary in colour from pitch to pitch) are adequate, and have some interesting character graphics, but the arena graphics which surround it are aimed scrutiny. A pleasant array of samples back the fast, smooth-scrolling play nicely.

OTHER FORMATS

A Commodore 64 (and possibly PC) version is in the pipeline. Watch out for further details.



PERSONAL NIGHTMARE

There's something very strange going on... it's as if you are living through the worst nightmares and wishes to come up, haunt anyone as you go on the terrible scenes that haunt your waking moments.

PERSONAL NIGHTMARE is the new brain child of **PERSONAL SOFT**. A new kind of text-driven, animated game that has been written using the new expertise developed. **PERSONAL NIGHTMARE** is highly original using some features only 10,000 more. The superb, fully animated graphics, backed by haunting sound effects, together with a highly sophisticated user interface to give total involvement of a new dimension. **PERSONAL NIGHTMARE** will introduce you to numerous characters including:

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The local village policeman and a host of other characters who will share in your

PERSONAL NIGHTMARE on **PERSONAL SOFT**



PERSONAL SOFT, London, England
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CHUCKIE EGG II

RELEASED DUE TO PUBLIC DEMAND
GUARANTEED SALMONELLA FREE

(Chucky Egg)

If you have played the classic computer game Chuckie Egg you hardly need an introduction to this "ovading" sequel, which takes us from the hen house to the chocolate Easter egg.

This eggcellent game is guaranteed to be salmonella free on your Amiga, ST or PC machines. It will give hours of entertainment and no matter how many times you unwrap the disc and sample the goodies it will neither make you fat nor rot your teeth!

CHUCKIE EGG II

Available on Atari ST/Amiga/Spectrum/Commodore/Amstrad
soon on PC.

CHUCKIE EGG

Available on Atari ST/Amiga/Spectrum/Commodore/Amstrad
/Acorn/MSC/Dragon/BBG/Electron soon on PC.

Review of Chuckie Egg
by Computer Games Week

Gameplay 90%, Graphics 85%,
Overall 87%



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labeled gets first release

PRISON

Krisalis

This first release from new software house Krisalis proves that sometimes life just isn't fair. This has been the case in the past, is still true now, and will be true in the 22nd century — the time that Prison is set. Jag Edwards is the put-upon hero of the tale. In a vile and corrupt world, he was one of the rare bastards in dark times, working undercover to uphold the crumbling law. A single bust was his last mission, a raid upon a hideout used as a cover for a narcotics ring.



Jag observed them for weeks before he was given the word. In a fiery battle, he eliminated the gang... only to be later captured, his head been set up, and was brought up before a Star-Judge, charged with the murder of ten others.

He was sentenced to the imprisonment on Atlas, a lonely world, once a mining planet, now inhabited by gangs of vicious creatures. All have one thing in common — they have all committed violent crimes. And they don't mind getting more blood on their hands if it gets them something to make their life grander on Atlas.

There is but one way to escape Atlas, and that's only a rumor. A pleasure ship has landed into the planet's atmosphere, and its escape pod may have survived unscathed.

As you step into Jag's boots, he has begun the hunt for components that may be needed to repair the pod and other objects necessary for survival. A sideways viewpoint of Jag and the surrounding area is given, but marked waypoints can be entered to follow paths at 90 degrees, the viewing angle then changes to retain the profile.

The playing area is supplemented by a number of displays, the most important of which is the items window allowing commands other than those given by joystick

control. Results of its use are displayed in the message 'tutor', and lives, energy, objects carried etc are given elsewhere.

Items that are generally dealt with by fate and fate, but stooges are a different matter. If killed, stooges can give useful information and objects... if you're lucky.

If Krisalis and programming team Togue are intending to make an impact with their first joint project they will be disappointed. The gameplay has been seen before: using objects to give access to new parts of the game, alien hindering progress (though in this case they're easy to eliminate) and masses of similar looking screens so that it's quite easy to get lost.

Prison is little more than a standard arcade adventure in a tired format so that no amount of fancy graphics and sound can help generate anything but very limited interest.

Familiar, strong Tague graphic style on the ST, but a weaker game

ST
66%
£19.95

The Tague graphic style is strong here, with browns, greens and greys lending to make clear, effective and eerie backgrounds. The upper half of the Jag sports is well defined but his legs are disproportionate and rather heavily flexible as Mr Edwards is mechanically animated. The samples are weak — both in definition quality and in sound effects.

ST
68%
£19.95

Looks very similar to the ST, raised that the colours are paler and the definition is a little different. The samples and music are of a better quality and add some atmosphere.

VERSION UPDATES

ARMSTRONG CPC
ARM ST
Victory Road

IMAGINE 3-in-1 CPM case, £14.95
disk, ST £19.95

In the space equivalent of Rari Flannery and the third in the series, one of two warrior rampages along



Victory Road armed with space age weapons lying bodies of ETs. ST owners may find the action slow at times but the larger number of aliens keeps the pressure on. Things are a lot better on the Amstrad (pictured above) with smaller but equally detailed, colourful graphics and a bigger playing area to match. In turn the gameplay improves although the ideas behind it are unoriginal.

TOM update:
Amstrad CPC 70%,
Atari ST 55%

COMMODORE
Warlock's Quest

SOFTWARE 05.95 case, £14.95
disk

Atari ST 75% — TOS602

Very much a natural for the Commodore, this teleport-and-leaders graphic adventure has undergone a strange mutation on the Commodore and now looks unnecessary muffled at selected points in each stage. The division of the screen into above and below ground sections is novel, but suffers with small sprites (which were less of a problem on the colourful ST version) and a dearth of animation or character detail. Warlock's Quest looks tired and plays tired.

TOM update rating: 43%

EGS
California Games
£24.99

Fifth in the Eggs Games series, California Games is the latest, most full collection of events Eggs have gathered together. Events are as on previous format versions: free-style skateboarding on the half-pipe, footbag — or keeping a small leather ball in the air, surfing, roller skating, inline skating, and BMX racing. In transition to the Eggs pop-art, little has been lost. The graphics are very good indeed. Backgrounds are as lively as the colourful, well defined sprites and the various participating teenage characters are realistically animated. Definitely one for the collection.

TOM update: 78%

Getting 'em off in style means more than five card stud

HOLLYWOOD POKER PRO

Felice Software


**SAVED
72%**

C19.99

As if all the full screen pictures weren't enough there's even a peevy magnifying glass feature which lets you scrutinize the female form in true strip magazine style. What a classic product this is. Great cards, amazing visuals, positively delicious and guaranteed to offend just about everyone. Enjoy it while you can.

OTHER FORMATS

Unfortunately, the excellent responsive was unable to devote any playing time to discovering whether Felice intend any further versions...

Woowee! Car Minny, we ain't had this much fun since ogling at Sam Fox's dipped pen in Strip Poker and getting steamed up over Mike Miniskin's *Chiswick* box. Spectrum owners and strip poker go back a long way — but not with this kind of digitized graphic!

In fact strip poker games are almost as common as sports sims, but this one is really the best — with knee-bentingly arousing graphics and a mean game of cards to boot. No touched-up graphics here, it's all touch-upable solid bubble flesh — and you don't have to suffer the interminable giggling of the *Teenage Queen* either. And to top it off there's a great, pulsating soundtrack too.

It's all familiar stuff — choose one of four ready-an'-willing games, click on the cards you want to keep or chuck away, bet, raise, and hopefully get a right royal flush.

The only problem with *Hollywood Poker Pro* is the feeling you get that the computer's cheating. Real play or not, there are a suspiciously high number of dull hands dealt on anything but the introductory clothing levels and, correspondingly, an awful number of good hands going to your opponent. This just ain't good odds, because the tendency to be continuously dealt low numbers repeats itself to a point beyond simple chance.

Well, maybe that's your grapes at a result of sheer frustration, but there are

ways to get to the bottom of things. One technique is to always bet safely and throw anything else away immediately. Oh — and never risk raising thinking your opponent is bluffing — these girls mean business!



They may have been rather a joke in the past, but Felice's *Hollywood Poker Pro* is a strip poker game with a difference — the cards ain't half bad! Not to mention the steamy graphics, which of course we won't.

Bored game from Atari

BACKGAMMON

Atari

Listed in the Atari Multigames range is the computer rendition of the classic board game, unlike Chess — or even the Mole, Backgammon is one of the more esoteric games in that very few people seem to know how to play it.

Whilst some people might buy this product to learn how to play the game, the majority will already know how it's played. For these, the age-old question must be addressed: how is the computer version better than the board game?

One advantage of course is that you don't need anyone else to play with — a dubious benefit maybe, as many other board game conversions testify. The graphics are plain and simple, the mouse-clicking on counters adequate, the roll of the dice nice. Or could there's nothing, but then Backgammon has never exactly been an easy sell.

Good to crush up your gaming ability maybe, but ultimately there's more fun to be had on the real board.



VALUE
53%

£19.95

The standard options are here, such as ten levels of play, action replay facility, and take back and restore the last move, making Backgammon an adequate but dull implementation.

VERSION UPDATES

SPECTRUM

Eliminator

Newton £7.99 coins, disk £12.99
Amstrad 50% — TGM97

The *Eliminator* graphics and effects of the ST version are accurately reproduced along with the swift and effective 3-D road, albeit in monochrome.

Atari moves smoothly and their missiles are easy to see, but the simplicity of movement options puts a question mark against the game's long-term playability.

TGM update rating 79%



AMIGA

Batman

OCEAN £24.95

Spectrum 50%, Commodore £4.75 — TGM97, Amstrad 70% — TGM98

The Dark Knight returns to 16-bit. Graphic definition is identical to that on the ST but colours are subtler. The Batman music remix uses some nice sounds and with a few sampled sound effects, the soundtrack is very effective. This is the best presented version yet of this comic licence.

TGM update rating 74%



Clean up Old Detroit in style

ROBOCOP

Ocean Amiga £24.95 ST £29.95

Commodore £7.75, Spectrum £7.95 — TGM97

Ocean should really congratulate themselves, for what was excellent on 8-bit formats has undergone a remarkable metamorphosis to be reborn with samples, digitised pictures, superb presentation and all the other extras that *RoboCop* offers. The results may be slightly stiff but a very good entertainment.

With a perfect blend of the gameplay from the 8-bit and arcade versions, *RoboCop* is innovative for what it offers. The levels may be relatively short but the attackers keep on coming. The best is left till last with a well animated 20-200, the criminals truck and others at levels end.

The shooting gallery, hostage scenes and the photo-fit style options (the latter using assembled digitised pictures) all contribute as much to the gameplay and atmosphere. The ST matches the Amiga in the shooting department, boasting six levels packed with graphic variety. The Amiga game comes out better on all counts with the inevitable advantages of smoother graphic definition and superior sound effects, but the gameplay remains the same on both machines.



This game is simply brilliant.
TGM update Amiga 94%
Amstrad 90%



COMMODORE 64/128

Blasteroids

IMAGE WORKS £9.99 coins,

£14.99 disk.

Amiga 70%, Amstrad 70%, Spectrum 60% — TGM97

Although lacking quite a bit in new ideas, *Blasteroids* is immensely satisfying to play — doubly so in two-player mode. The simplicity and immediate playability of the game is its saving grace and makes up for graphics which are functional rather than aesthetically pleasing. If you feel up to playing *Asteroids* all over again, or above the coin-op, *Blasteroids* could very well be worth your while.

TGM update 65%

The man whose head exploded

DNA WARRIOR

Atreonic

Professor Szymanski is a brilliant but power-crazed man. A Nobel Prize in genetics was not enough for him, and in an incredible experiment he injected DNA and growth accelerators into his brain, thinking this would increase his memory potential and intelligence quotient tremendously. Now he is on the brink of death.

Szymanski is in a coma and his brain is expanding to dangerous proportions. A genetic inhibitor cannot reach the affected area — his natural defences have mutated too far — so a malfunctioned one-man submarine must be piloted to the spot. So far so *Acorn* and Steven Spielberg et al.

The Professor has a number of artificial limbs and organs, so the various spores which attack the would-be body voyager include both biological and mechanical mutants. Your ship's rather tame laser cannon and slightly cumbersome handling can be exchanged for better add-on systems by collecting plasma spheres.

In the crowded world of shoot-'em-ups, *DNA Warrior's* originality lies in its horizontal two-way scrolling and selectable skill levels which allow a choice of route to the boss. This isn't much use if the game is repeatedly lacking in guts, and unfortunately, it is.

THE ADD-ONS

One sphere adds memorability

Two spheres reveal five cannons

Three spheres: vertical cannons

Four spheres: multiples

Five spheres: absorption shielding

Six spheres: 'starburst'

Seven spheres: energy replenished

C9.99

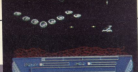
Cass

£14.99 disk

Bright graphics are neatly defined but short of detail, while funky music makes up for weak sound effects. It's all quite competently done but games like this have been seen endless times on the Commodore — and several at budget price.

OTHER FORMATS

An Atari ST version will be released shortly.



SPEX 62%

C9.99

Cass

The definition of this version is weak and unthrilling, and the problems are compounded by the game's slow pace. The sub floats around as if it is treadle rather than really floats (yehhh). The beep sounds effects are simple even for the Spectrum.

SAGA 49%

£19.99

The sub is surprisingly large and makes noise when it shifts on occasions. The Amiga's capabilities are decidedly underused, with definition at best adequate and at worst infinite and shades of the same few colours used throughout a level.

Who ya gonna call this time?

THE REAL GHOSTBUSTERS

Activision

The cartoon gained the 'Real' prefix because it's supposedly based upon real people. And they're a strange bunch, too. The leader, Peter Venkman, is a bit of a slob and a fool, but enthusiastic about Ray Stantz makes up for this with his extensive scientific knowledge. In the particular field of electronics, Egon Spengler is a genius — but he's also a complete nerd.

Message: *Exterminator* is the most down-to-earth of the *Busters* but is also the only one that isn't got *Slimer* — a grizzly green ghost — on the team. The secretary, Janine Melnitz, tries to keep order amongst this wacky bunch. A build-up of psychic and paranormal energy has resulted in an outbreak of ghostly manifestations throughout New York. The terrified public need the kind of specialised help that only Ray, Winston, Peter, and *Slimer* can give them.

One or two playing guide the *Ghostbusters* spends through ten multi-directional push-scrolling levels, armed with both guns and proton beams. Shooting turns creatures encountered into ghosts, which can then be gathered into the *Ghostbusters' back-packs* with judicious use of the limited-change proton beam.

Some creatures or obstacles give bonus

ies, increased beam energy, increased shot power, extra power (temporary shield), or *Slimer*. At the end of each level a particularly nasty demon (or worse, a number of them) has to be neutralised. In return, the key to the next level is given. It's interesting to see which weird monsters occupy the next level, particularly as some are so imaginatively designed. The home computer versions are sure to be — and deserve to be — more successful than the obscure TMS Data East coin-op on which this vertically scrolling shoot-'em-up is based.

Activision gave us the best-selling computer of all time (they claim) in the original *Ghostbusters*, but on the Spectrum, at least, this newer version is much better received critically.



SPEX 86%

C9.99

Cass only

The main sprite is outlined thickly and unattractively in black. On the other hand, some of the creatures are very well defined and animated, and use colour cleverly — almost as near to certain graphics as you can get on the Spectrum.

OTHER FORMATS

Amiga (£34.99), Atari ST (£19.99), Amstrad CPC and Commodore 64 (both C9.99 Cass, £14.99 disk) should all be available by the time you read this review.

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WYLLIE, JENNIE. 1894-1900. 1904. 1905. 1906. 1907. 1908. 1909. 1910. 1911. 1912. 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922. 1923. 1924. 1925. 1926. 1927. 1928. 1929. 1930. 1931. 1932. 1933. 1934. 1935. 1936. 1937. 1938. 1939. 1940. 1941. 1942. 1943. 1944. 1945. 1946. 1947. 1948. 1949. 1950. 1951. 1952. 1953. 1954. 1955. 1956. 1957. 1958. 1959. 1960. 1961. 1962. 1963. 1964. 1965. 1966. 1967. 1968. 1969. 1970. 1971. 1972. 1973. 1974. 1975. 1976. 1977. 1978. 1979. 1980. 1981. 1982. 1983. 1984. 1985. 1986. 1987. 1988. 1989. 1990. 1991. 1992. 1993. 1994. 1995. 1996. 1997. 1998. 1999. 2000. 2001. 2002. 2003. 2004. 2005. 2006. 2007. 2008. 2009. 2010. 2011. 2012. 2013. 2014. 2015. 2016. 2017. 2018. 2019. 2020. 2021. 2022. 2023. 2024. 2025. 2026. 2027. 2028. 2029. 2030. 2031. 2032. 2033. 2034. 2035. 2036. 2037. 2038. 2039. 2040. 2041. 2042. 2043. 2044. 2045. 2046. 2047. 2048. 2049. 2050. 2051. 2052. 2053. 2054. 2055. 2056. 2057. 2058. 2059. 2060. 2061. 2062. 2063. 2064. 2065. 2066. 2067. 2068. 2069. 2070. 2071. 2072. 2073. 2074. 2075. 2076. 2077. 2078. 2079. 2080. 2081. 2082. 2083. 2084. 2085. 2086. 2087. 2088. 2089. 2090. 2091. 2092. 2093. 2094. 2095. 2096. 2097. 2098. 2099. 2100. 2101. 2102. 2103. 2104. 2105. 2106. 2107. 2108. 2109. 2110. 2111. 2112. 2113. 2114. 2115. 2116. 2117. 2118. 2119. 2120. 2121. 2122. 2123. 2124. 2125. 2126. 2127. 2128. 2129. 2130. 2131. 2132. 2133. 2134. 2135. 2136. 2137. 2138. 2139. 2140. 2141. 2142. 2143. 2144. 2145. 2146. 2147. 2148. 2149. 2150. 2151. 2152. 2153. 2154. 2155. 2156. 2157. 2158. 2159. 2160. 2161. 2162. 2163. 2164. 2165. 2166. 2167. 2168. 2169. 2170. 2171. 2172. 2173. 2174. 2175. 2176. 2177. 2178. 2179. 2180. 2181. 2182. 2183. 2184. 2185. 2186. 2187. 2188. 2189. 2190. 2191. 2192. 2193. 2194. 2195. 2196. 2197. 2198. 2199. 2200. 2201. 2202. 2203. 2204. 2205. 2206. 2207. 2208. 2209. 2210. 2211. 2212. 2213. 2214. 2215. 2216. 2217. 2218. 2219. 2220. 2221. 2222. 2223. 2224. 2225. 2226. 2227. 2228. 2229. 2230. 2231. 2232. 2233. 2234. 2235. 2236. 2237. 2238. 2239. 2240. 2241. 2242. 2243. 2244. 2245. 2246. 2247. 2248. 2249. 2250. 2251. 2252. 2253. 2254. 2255. 2256. 2257. 2258. 2259. 2260. 2261. 2262. 2263. 2264. 2265. 2266. 2267. 2268. 2269. 2270. 2271. 2272. 2273. 2274. 2275. 2276. 2277. 2278. 2279. 2280. 2281. 2282. 2283. 2284. 2285. 2286. 2287. 2288. 2289. 2290. 2291. 2292. 2293. 2294. 2295. 2296. 2297. 2298. 2299. 2300. 2301. 2302. 2303. 2304. 2305. 2306. 2307. 2308. 2309. 2310. 2311. 2312. 2313. 2314. 2315. 2316. 2317. 2318. 2319. 2320. 2321. 2322. 2323. 2324. 2325. 2326. 2327. 2328. 2329. 2330. 2331. 2332. 2333. 2334. 2335. 2336. 2337. 2338. 2339. 2340. 2341. 2342. 2343. 2344. 2345. 2346. 2347. 2348. 2349. 2350. 2351. 2352. 2353. 2354. 2355. 2356. 2357. 2358. 2359. 2360. 2361. 2362. 2363. 2364. 2365. 2366. 2367. 2368. 2369. 2370. 2371. 2372. 2373. 2374. 2375. 2376. 2377. 2378. 2379. 2380. 2381. 2382. 2383. 2384. 2385. 2386. 2387. 2388. 2389. 2390. 2391. 2392. 2393. 2394. 2395. 2396. 2397. 2398. 2399. 2400. 2401. 2402. 2403. 2404. 2405. 2406. 2407. 2408. 2409. 2410. 2411. 2412. 2413. 2414. 2415. 2416. 2417. 2418. 2419. 2420. 2421. 2422. 2423. 2424. 2425. 2426. 2427. 2428. 2429. 2430. 2431. 2432. 2433. 2434. 2435. 2436. 2437. 2438. 2439. 2440. 2441. 2442. 2443. 2444. 2445. 2446. 2447. 2448. 2449. 2450. 2451. 2452. 2453. 2454. 2455. 2456. 2457. 2458. 2459. 2460. 2461. 2462. 2463. 2464. 2465. 2466. 2467. 2468. 2469. 2470. 2471. 2472. 2473. 2474. 2475. 2476. 2477. 2478. 2479. 2480. 2481. 2482. 2483. 2484. 2485. 2486. 2487. 2488. 2489. 2490. 2491. 2492. 2493. 2494. 2495. 2496. 2497. 2498. 2499. 2500. 2501. 2502. 2503. 2504. 2505. 2506. 2507. 2508. 2509. 2510. 2511. 2512. 2513. 2514. 2515. 2516. 2517. 2518. 2519. 2520. 2521. 2522. 2523. 2524. 2525. 2526. 2527. 2528. 2529. 2530. 2531. 2532. 2533. 2534. 2535. 2536. 2537. 2538. 2539. 2540. 2541. 2542. 2543. 2544. 2545. 2546. 2547. 2548. 2549. 2550. 2551. 2552. 2553. 2554. 2555. 2556. 2557. 2558. 2559. 2560. 2561. 2562. 2563. 2564. 2565. 2566. 2567. 2568. 2569. 2570. 2571. 2572. 2573. 2574. 2575. 2576. 2577. 2578. 2579. 2580. 2581. 2582.

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CONCLUSIONS

Abstract

Table 1

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Year	Age	Gender	Occupation	Education	Income	Health	Family	Community	Environment
2010	25	Male	Student	High School	\$15,000	Good	2	Low	Urban
2011	26	Female	Teacher	College	\$25,000	Good	3	Medium	Suburban
2012	27	Male	Engineer	University	\$35,000	Good	4	High	Suburban
2013	28	Female	Doctor	University	\$45,000	Good	5	High	Urban
2014	29	Male	Lawyer	University	\$55,000	Good	6	High	Urban
2015	30	Female	Manager	University	\$65,000	Good	7	High	Urban
2016	31	Male	Executive	University	\$75,000	Good	8	High	Urban
2017	32	Female	Executive	University	\$85,000	Good	9	High	Urban
2018	33	Male	Executive	University	\$95,000	Good	10	High	Urban
2019	34	Female	Executive	University	\$105,000	Good	11	High	Urban
2020	35	Male	Executive	University	\$115,000	Good	12	High	Urban

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TABLE 1

REPLACES SUPPLEMENTAL MATERIALS AND FIGURES AND IS NOW THE ONLY PLACE TO FIND THEM

[illegible][illegible]

Thundering, Yorkie-eating action

SUPERTRUX

Title Systems

Most lousy drivers simply transport goods and score the best out of potatoes in the fast lane, but your average Supertrux driver is made of stonger stuff. These boys don't want to drive — they want to race! The biggest and best truck race in the Supertrux Trophies, a trans-European event taking drivers from London to Athens, via many famous cities on the way.

All participating trucks have automatic gears, so it's simply a case of accelerating, up, decelerating and steering. This doesn't mean the race is easy — just staying on the course is a higher priority than taking the lead, but twisting roads with unexpected dips and slopes, and other vicious truck drivers are only part of the problem. The organisers of the Supertrux Trophy race are obviously incompetent, as the route they have chosen is strewn liberally with roadblocks. All in all it's going to take some mean driving to complete

each stage within the testing time limit. Simulating a race between 55-ton trucks

could hardly be called an easy task, but this game decided to produce a relatively simple Out Run variant, with truck sprites thrown in as vehicles. On all formats the perspective of curves and slopes is fairly effective and the route through Europe is variable, but only can you choose the city you head for, but also in mid-stage you have to choose between two types of road — slippery or bumpy, for example.



An Out Run with trucks seems like a hefty task, but replicating on their 'video relay' technique. This game comes up with a lively enough game for all three popular 8-bit formats. (Amstrad CPC above, Spectrum left and top right)

C9.99

CARS

£14.99 disk

The perspective of the road is fine but roadside features approach slowly. The graphics use the common empty wheelbarrow, and the soundtracks uses the common empty wheelbarrow effects. Nevertheless, this is a playable CPC racer.

When diplomacy fails...

TANK ATTACK

CDS Software

CDS — has primarily retailers — go back to the earliest days of dependent gaming, and they aren't unfamiliar with the concept of simulating computers and board games — Brian Clough repeatedly signed up with them to make his Football Fortune — Tank Attack is one such.

The scenario involves four countries (depending on which Amstrad, Commodore, Spectrum and CDS version you own) maintain an uneasy peace, but this is about to end abruptly. Mechanized forces are pressing the borders and the shooting is about to start.

Depending on the number of players involved, two countries can form an alliance against the other two, or all four countries can war against one other. Each has its

own division of tanks (light, medium and main battle tank) and armoured cars (light and medium).



More board than computer game

Offensive tactics aren't all, the headquarters of each country must be defended, since the objective is to reach the enemy's HQ and win the war. Each country also has a repair depot to remove the dents from tanks damaged in battle together with a rebuilding yard for new tank sales.

The computer plays the role of game moderator providing details of battles, weather conditions (which affect movement), troop morale and activities in the form of the newspaper War News. All variables which play a part in the game are determined by the computer, including the amount of movement possible per turn and the results of combat.

Terrain plays its inevitable part, restricting tank movement in certain regions, and coordination takes place using line-of-sight rules, the outcome depending on larger tanks, strength and other variables.

Like Football Fortune, Tank Attack is primarily a board game, the computer is only used as a moderator and the emphasis is thoroughly on boardplay. The 2-4 player rule backs up the hexagon-based board game, and so its appeal may not be immediate.



ATARI ST

Cosmic Pirate

OUTLAW £19.99

Amiga/ST 100% — TOSM01

This version of the spaceship-hacking fiasco is a strange fish compared to the Amiga original. The spacecraft surrounding the hyperspace boss are animated (albeit unspectacularly in four frames) and the player's sector map scrolls diagonally, leaving you at sea before you make selection. However, the in-game scrolling is in pronounced update steps, so that against the grid of a simulator the spaceship appears to move backwards. And in all games alien movement could be a bit smoother.

Otherwise reasonable definition falls down on the jerky and lousy spacetracks, while the ST's restricted colour capabilities mean missions are mainly in shades of the same colour. The soundtrack imitates the Amiga's well, but on the whole ST Cosmic Pirate falls short of the high quality original.

TGM update: 70%.

AMSTRAD CPC ■ SPECTRUM

ObitorturePES GAMES £9.99 cash, £14.99 disk
Am ST 100%, Amiga 100% — TOSM01

As was the case with Psychoid's Barbarian, Obitorture's appeal lay with the quality of graphics and sound on the 16-bit originals.



Tougher controls make Spectrum Disk harder to manipulate

Disk is tricky on the Amstrad, and metal badly and slowly against backgrounds of a bright and jagged appearance. On the Spectrum, the hero walks strangely but smoothly, and despite some clash, the graphic detail is adequate. The Amstrad music and effects are annoyingly crude, but although the Spectrum's music is reminiscent, its natural effects are very good.

The real problem with 8-bit Obitorture lay in its control system. Because the score is coded through using up/down, this slows the speed at which you run in a bit — and it's also easy to accidentally change a selected item. This is a large but ultimately unhelpful detail point.

TGM update:
Amstrad CPC 99%
Spectrum 91%

AMIGA

Goldrunner IIMICROBIAL £19.99
Am ST 100% — TOSM01

Unfettered, horizontal scrolling reserved variation on Defender, the Amiga Goldrunner II has been a long coming. Other than a pleasant tune there's little in the final product to suggest any improvement over the ST game. Indeed the scrolling — the main selling point — comes out worse, crawling along if his many characters are on screen. An above average game if only for different gameplay and the good quality of backdrops.

TGM update: 90%.

ATARI ST

Bismarck

PES £19.99

This recreation of a World War II naval battle was good in its day but, frankly, it should have stayed on 8-bit. The arcade sequences which are meant to cut across the strategized divide fall on all counts, with jerky animation and clonal graphics, and the computer strategy is poorly implemented. A weak translation of a really nice idea.

TGM update: 33%.

AMIGA ■ SEGA ■ SPECTRUM

VigilanteUS GOLD \$44.99 cash, £13.99 cash, 16-bit £14.99, Sega £19.99
PC Engine 100% — TOSM01

Spectrum Vigilante comes across extremely well. The graphics may be missing some finishing touches, but the gameplay's all there. Attacks come fast and fast — often too fast.

The Sega game almost matches the PC Engine version. Its graphic artists have gone to town on the backdrops with good looking sprites to match. Pretty, but as much fun to play as the others.

The Vigilante character has been shrunk on the Amiga to keep the playing area in proportion, resulting in some graphic detail loss. But gameplay shows us well in that the Vigilante has a better chance of rescuing Madonnas. On the minus side, the limited number of moves Vigilante can make narrow the game's scope, but then the arcade version wasn't too hot on gameplay either. Still, Vigilante is broad and butter for the 8- and 16-bit and proves immediately playable and strongly challenging.

TGM update: Amiga 70%,
Sega 90%, Spectrum 70%



Amiga shrunk but vicious...

100% 100%
61%

£9.99

CASA

£11.99 disk

The truck sports a flexbox, the tank barrel and futuristics, and the horizon barrier, but the screen update is quite good. The hills effect is sweet on the Commodore, but has the annoying additional feature of road cones flying through the air when you run into them. Both the music and effects are basic.

100% 100%
67%

£7.99

CASA

£12.99 disk

For some reason, the road doesn't reach the horizon and the springs on it move illogically, but the screen update is good, since the truck gets up speed. The effect of going up and down slopes works well with its growing and shrinking lower border. Quite similar in look to Imaginer's WRC. In short, the Spectrum version is the most playable so far.

OTHER FORMATS

There's a chance that 16-bit versions will be produced, but not until this time next year.

The mechanics of play are easy to grasp but there's no real reason why the game should be so simple — an attempt at appealing to both mainstream computer owners and board game enthusiasts perhaps?

100% 100%
75%

£12.99

CASA

£14.99 disk

The computer is used for nothing more than the simple purpose of releasing the game, but presentation is first class and very user-friendly with animation sequences and detailed graphic accounts of conflicts as they occur. In this respect, Dark Moon is a better game than most previous mixtures of computer and board game, and offers a whole new set of ideas for strategy gamers.

SOFTWARE SNAX

■ We at THE GAMES MACHINE know you want the best in games reviews. TGM is the very best source of multi-format reading your money can buy, but in the constant search for ever better ways of presenting reviews, we don't rest on our laurels! That's why in this issue we've changed several things.

Software Snax is the section for short reviews. Space has run out on us! So many great titles are being released every month on all the various formats that we have had to create this new section to give us room to fit even more reviews into the allocated space.

But just because they're short doesn't necessarily mean we think they are rubbish. Oh no. Check out **Battlehawks 1942** right next door. **Software Snax** is where you will find those games which fell in between our schedules (which means they might be just a touch late) or those that came in so late we couldn't fit them in the main review section (which means they're incredibly early!).

Here too are the better releases which are intended to cover most popular formats, but the first machine release is well ahead of the others. When this happens and something is really good — watch out for a **Star Update** in later issues!

WHO FRAMED ROGER RABBIT

MacIntegris ■ Commodore 64/128 ExLX

Action! Ganger! Excitement! Well that's what it says on the box. Great shame then that the computer version of the fabulous movie is an example of the well known adage 'film licenses do not necessarily a great game make'.

Roger Rabbit follows three sequels from the film: *Boyz n the City*, *The Itz And Pazz Club* and *The Gag Factory*. First off, you guide poor car Benny along a occasionally treacherous road, avoiding pits and other vehicles. The *Itz Club* sees Roger racing around taking pickup stops if you've seen the movie you'll know what happens



Great presentations, Roger, but too easy even for a Toon to play!

when he drinks liquor), and in the final section Roger picks up gaps and uses them to slow down pursuing weasels.

The graphics are crude and blocky and

The rewrite of history goes on

BATTLEHAWKS 1942

US Gold/Lucasfilm ■ PC 624.95

Apologies for being a bit late with this one. We were really hoping to go to town with all these 16-bit versions, but the ST and Amiga games (both at £24.95) are still awaited...

Lucasfilm, creators of the legendary *X-Wing*-based games and providers of naval war simulators have reached for the stars with *Battlehawks 1942* to recreate the dogfights and attacks on carriers between Japanese and American forces which made wartime history.

Rather than follow MicroProse with their one-sided battles, Lucasfilm's program allows for planes of either side to be flown.

Four historic conflicts have been computerised, including the Battle of Midway in which three Japanese carriers were sunk in ten minutes. The missions have been faithfully recreated as a starting point for you to rewrite history.

Depending on which out of 32 missions is chosen, a dive bomber, torpedo bomber or fighter may be flown, each with their own attack.

Players had best gain flight experience through the all-missions training option. Those with more confidence can go straight into active service, and levels of fuel, ammunition, plane strength and enemy skill can be altered prior to the battle.

While the game aims to be a combat simulator it's a relatively simple game in terms of flight controls and actual flying. *Battlehawks* has a replay camera option whereby battles are replayed showing your plane from a spectator plane as it goes into the attack.

The enemy isn't restricted to fighter planes (as they Japanese Zeroes or American Wildcats). The carriers are armed to the teeth and willingly throw AA shells at

you and the others in your squadron. Suffer too many hits and there's not a lot left to do but bail out.

Game planes you may choose have a rear gunner and things become doubly difficult at this stage as you keep one eye on the correct course to a target and the other on the rear guns to fend off fighters. At only 70 feet above the water, shooting at Zeroes, dodging fish and trying to avoid hitting the water you've really got to be on the ball.

With *Battlehawks 1942*, Lucasfilm have produced a potentially excellent combat simulation. The action is accompanied by some extremely near galeforce touches — five bursts at a time, planes burst smoke when hit, others explode and often into the sea, ships go down amongst massive explosions and plumes of smoke. It all



the game's speed is inappropriately slow or fast in the wrong places. A glossy package includes a 'pig factory catalogue' and a full-colour poster. A lovely presentation let down by a feeble game — **early reject**

TOM rating 40%

CHASE

Virgin Mastertronic ■ ST £9.99
Amiga £9.99

Zapp, Kapow, splatting — The Empire Strikes back meets Starline in this Mastertronic 16-bit budget offering.

It's a four-level, vector graphics space shoot-'em-up, in which you guide a spaceship through asteroid fields, between sat towers and along tunnels made up from moving squares before ripping along an obstacle-strewn corridor as in the famous Star Wars Deathstar sequence.

The reason for engaging in all this heart-fertilising excitement is to pursue a frustratingly elusive blue ship which does its best to prevent you (the non-wired pilot accord-

ing to the inlay blurb) from blasting it into as many parts.

Mouse control on both formats is very responsive, the graphics are fast and smooth and the sound — particularly the Amiga's rich, booming explosions — is very satisfying.

Unluckily there's very little to tell the two versions apart, but the Amiga game is

much tougher to play, making the more frustrating of the two.

There's no denying that this is a real old mishmash of famous games, but in the still-high-priced 16-bit market it's a budget price at a bit of a loss.

TOM rating: Atari ST 60%

Amiga 60%



Mightyash: a mixture of iconic famous games that you can secure an one hand, Chase still remains a reviewer's favourite. It's a low 16-bit price



helps recreate the tension and exhilaration of air combat over the Pacific.

But it isn't perfect: the aircraft graphics are small, indistinct and slow moving (especially on the lower-end PCs) but move realistically enough. Despite periphery screens which use VGA well, the game itself looks essentially like a Commodore 64 game — something Laserlabs have got it really — and sound effects are very much PC (though soft).

And the atmosphere is set down to a degree by the omission of take-off and

landing sequences. Attacks against land targets would have been good as well. Without these demands the game's limitations begin to emerge, and as such **Battlehawks 1947** fails just short of being a comprehensive combat simulator.

TOM rating 70%



BORODINO

Atari ■ Atari ST £19.95

First in Atari's Battlescapes series, **Borodino** involves the would-be wargamer in a computer simulation of the bloody and protracted conflict which took place in 1919.

Napoleon's invasion of Russia ended in a disastrous retreat from Moscow. One of the key factors which led up to this was the failure to win more than a moral victory when his 121,000 men met 105,000 Russian troops at the small town of Borodino, some 70 miles west of Moscow.

You can play either Napoleon (surely any healthy megalomaniac's dream) or Prince Kutusov leading the Russian defence, playing against either a computer or a human opponent. The battle terrain is shown in 3-D perspective, and by clicking on troops and other ground features you are informed as to their status.

Borodino employs a unique battle command structure which involves typing instructions directly into the program, such as 'look west from Borodino' or 'hey order one infantry division and your cavalry to move to LBSA'. Be especially careful when

entering commands — if they're too vague you could end up sending an entire army into the jaws of death!

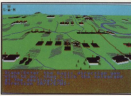
Corps can be given orders to stop giving or taking support from another division, but reports can be obtained and defensive or attack lines set up.

Historical orders can be followed or dispensed with, highlighting the educational value of this program for scholars of the 'what if' school of play. Additionally, graphics can be saved in **Neochrome** format for later use, and by saving the game state every move it's possible to convert **Borodino** into a play-by-mail game.

For the hard wargamers, **Borodino** makes an attractive program. Graphically it's nothing special, but then neither was **Universal Military Simulator**, and it must be said that the latter is a much more flexible program. But if you really want to be Napoleon, **Borodino** could just be your Waterloo.

■ Watch out for **Armada**, **Trafalgar** and other titles in the series, and TOM's special feature of wargames is the near future.

TOM rating 87%



Battle for Borodino — in a sense the turning point of Napoleon's Russian campaign. Universal Military Simulator it isn't, but **Borodino** might please your average armchair dictator

ORBITER

Microware/Spectrum Helicopters
Atari ST £24.99

Space, the final frontier and the setting for a round-the-earth trip in the Space Shuttle Orbiter. It may be from the studios of Playboy but this title product is from the early days of the ST both in presentation and ideas.



Repetitive and often tedious detail is Orbiter's trade mark

From launch through satellite deployment, telemetry and landing, Orbiter remains in repetition and often tedious detail the technical side of commanding a space

shuttle. Indeed, so much emphasis has been placed on simulating the controlling of the craft's systems that the flight simulator element is non-existent. The largely monochrome graphics hark back to the Mac original — and they should have stayed there.

This might be a unique program but it really is designed for hardcore simulation fanatics only.

TGM rating 4.7%

JUG

Microware ■ ST £18.99

Is the planet Spitzius dying? Yes it is — alien away from its very core by mutants. And it's your job to make 'em spit out the pop. Pick-screen caverns — divided into zones and sectors — are traversed in a JUG Museum expanse (going cheap through Exchange and later the month), which can be updated by picking up different weapons. Fuel decreases when in fight, but capsules can be collected to replenish it, and teleportation booths take you rapidly from one screen to another.

The 16-screen maze and metallic



Going for the JUGular — plenty of shooting, but keep an eye on your fuel level

adventures instantly remind of Cybernet, but the game is, in fact, simpler than Hewson's classic: more of a simple exploration shoot 'em up, with linear sequences.

The screen on the mutants looks effective, especially in combination with the anti-alien definition and amusing animation on some. Equally good is the metallic effect on the mildly impressive weapons transformation sequence. Plain bar-reel backgrounds are highlighted by well-drawn skeletal monster corpses.

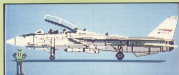
JUG offers a few hours of fun but it's nothing to get excited about.

TGM rating 6.6%

Toward Top Gun

F-14 TOMCAT

AtariVision ■ Commodore 64 £14.99 disk only



AIM-9B SHORT ANTENNA
TACAN ANTENNA
IFF ANTENNA
AN-ALQ-100 ANTENNA
SHARP INTERCEPT OFF
OIL COOLER INTAKE
AIM-9B SIGHTING
AIM-94 PHOENIX

AIM-120 AIRMAN
JOINT JAGGER CANNON
CLIQUE CAPTAIN
SAFETY OFFICER
FLIGHT SICK OFFICER
WEAPON CREW
RESCUE CREW
CATASTROPHE CREW

From flight training to active service on the wings and then onto the Top Gun School, F-14 Tomcat charts the progress of eagle-born Coyotes... and after all, who wouldn't test?

F-14 Tomcat follows the MicroProse lead with detailed peripheral screens but differs in keeping in-game presentation to a minimum. The enemy jets move awkwardly and while fast-paced gameplay is present, there's little attention to detail. A green ground or blue sea and blue sky is all there is to see for much of the time.

It is highly unlikely that MicroProse will lose any sleep over F-14 Tomcat. The tight complexity and authenticity have been toned down considerably to allow the arcade element to creep in. In simulating the more detailed aspects of a simulation comes a lack of depth, but the immediate appeal and playability are retained.

If you want pure Top Gun action with a moderate amount of depth of play then you can't go far wrong with this.

TGM rating 7.3%

CHICAGO 30s

IPS: Gold ■ Spectrum £8.99 case, £12.99 disk
Amstrad CPG £8.99 case, £14.99 disk

It's the Thirties. A low undercover agent drives a sedan armed with a machine gun enters the windy city to close down Al Capone's business. From the port to the city's outskirts and centre, and eventually the liquor warehouses, the good guy is up against Al's mob whose members pop up from manholes or ride black sedans throwing fire bombs.

Smooth parallel horizontal scrolling always looks good on the Spectrum, although the partially monochrome screen masks bullets and traps. Likewise weak sound effects do the game no favours.

Amstrad colour (below) is abundant and lucky the slightly rougher scrolling, falling of many an Amstrad game, is unnoticeable once play gets going. Like the Spectrum game, limited animation causes gangsters to glide along strangely at times.

Like Topsoft's previous, Mail Me, Chicago 30s is a surprisingly simplistic game based on dated ideas. We've seen it many times before and this latest offering adds nothing to the recipe.

TGM ratings Amstrad CPG 3.9%, Spectrum 4.2%



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Commodore AMIGA



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DUGGER

Level ■ Amiga £19.95

Like Linn's first game featuring Herbie Stone (Crack — a Break Out variant), Dugger is a reworking of the old arcade game Dig-Dug.

Nasty creatures Gurchy and Frugal dwell underground and Herbie, a caverman, must beat them up with his pump. The dangerous beasts can also be eliminated by



Level dig up old ideas for Herbie Stone's second adventure

dropping hefty boulders on their heads.

By far the best part of the game is the introductory sequence, where three cave men arrive at "CRACK" in a rock face and have to be sent back to correct their mistake. The amusing cartoon graphics are also used in the necessarily smaller game sprites, which are bold and neatly animated. The earthy backgrounds are nicely shaded and the game is backed by a pleasant tune and fitting effects.

Being a reworking of such an old game, Dugger has very simple gameplay, and limited long-term appeal as a result.

TGM rating 4.1%

Ice cold and jammin

SKATE OR DIE

Electronic Arts ■ Spectrum £6.95 case, £14.95 disk

If you enjoyed the half-pipe freestyle event in Lippin's California Games, Skate Or Die is for you, because it's devoted to that most red of transports — the skateboard.

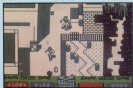
Event one is similar to the Games one but with more moves available. High Jump also takes place on the half-pipe ramp but altitude is the aim. There's a yacht journey through a park in the Downhill, and an equally fast but perhaps dangerous one in the Downhill Jam two-man race. The rivalry gets stronger in Pool Joust, where the two skaters roll around an empty swimming pool and attempt to knock each other over with a "flying stick" (oar or paddle).

Released a long time ago on the Commodore 64, it's almost as enjoyable now on the Spectrum. While the High Jump is too simple and Pool Joust too tricky and boring, the remaining three events are great fun, particularly with friends.

Most screens and their elements are black on white, and though things sometimes become a jumble of pixels, the visual elements work reasonably. Sports movement and scrolling, where used, is adequately done. A fun package of events that's well worth a look.

TGM rating 7.6%

Through the roller-skier metaphor of skidding in fear to save all that, you won't need to be threatened into playing Skate Or Die on the Spectrum because it's as jolly as it was on some time ago on the Commodore 64.



WILLOW

Blindage ■ Amiga, Atari ST £24.95

George Lucas's latest — but certainly not greatest — cinematic creation moves to the computer. Telling the tale of a quest to save a child, Eon's Danan, from the evil Queen Samandora, the game is split into seven parts, six of which can be practiced before risking your sight lives. The Dungeons, Ice Caves and Woods are 3-D mazes, the latter giving you the opportunity to freeze enemies with magic acorns.

Despite its different stages, Willow is both 16-bit versions is nothing to rave about. Each stage is difficult (frequently

very difficult) and what's worse, losing, so there's little incentive to perseveres. The ST sprites are badly coloured, drawn and animated, backgrounds are plain, and the digitised pictures have random red and blue pixels spread over them.

Control response is slow and sound is limited to basic beeps. Things are worse still for 500 owners because the game takes a long, long time to load in parts and if — as is often the case — you die quickly, it's very frustrating having to load every-

thing back again.

The Amiga game is depressingly similar to the ST's. The loading time is no faster and, other than the clearer digitised pictures, graphics are equally poor, and the music, a grating single-channel tune.

Loading troubles or not, Willow simply isn't worth the bother.

TGM rating Amiga 1.7%

Atari ST 2.1%

THUNDERWING

Cascade ■ Atari ST £19.95

To win in the 16-bit arcade stakes these days, you need a game with loads of playability, sufficiently novel features, or at least very clever implementation. Unfortunately, it's not the case here with this all too familiar vertically scrolling shoot-'em-up.

Armed with lasers and ship-encasing laser fields, you face wave upon wave of alien tanks and defence craft. The plot and simple gameplay could be forgiven if the graphics and presentation made up for it — but Thunderwing fails completely because they don't.

Primitive graphics, a very muddled plot and lame alien craft combine to pro-



Certainly no ACE, Thunderwing's a bit of a yawn

duce a simply horrendous result.

TGM rating 2.8%



Pretty pictures apart, 20 minutes loading near-impossible stages will soon have you weeping

WANDERER

Elite Systems ■ Amiga £19.99
Amstrad CPC £9.99 cash, £14.99 disk,
Commodore £9.99 cash, £11.99 disk
Spectrum £9.99 cash, £12.99 disk
Atari ST £19.99

Think of the excellent Vadd's role, the down-trodden Confederation of Ten Planets rebel. The Confederation hires a mercenary, the Wanderer, to take on and defeat both Vadd and his space army. Like all mercenaries, the Wanderer's got to work for his Megs but isn't this a job like any other?

To confuse us all and make the reviewing process a little more difficult the 8-bit and 16-bit versions differ in their plots. The ultimate objective in both is to reach Vadd and defeat him and his minions.

The common method of play to both is to take turns between each of the ten planets engaging in a game of space poker. Each planet having its own 'hand', by improving each planet's hand the Wanderer is rewarded with Megs (8-bits) or Cash (16-bits). Once 8000 worth have been collected



Originally conceived as a very fast yearling for the 16-bit version, 3-D graphics to play it, Wanderer now relies on a more standard 3-D effect, as seen here in the Amstrad version.

or a 'four of a kind hand' is made (8-bits only) the doorway to Vadd opens up and the final conflict begins.

As well as the poker playing planets, space pirates are out in force throughout the solar system. By destroying pirates the Wanderer's combat ability goes up, with ability increases comes the option to enter black holes and collect Variable Disruptor

Units (8-bits) or Jokers (16-bits).

VOLUs and Jokers dramatically increase card hands when used and in turn not only accelerates the Wanderer's profits but takes him ever nearer towards opening the portal to Vadd.

A truly odd game, Wanderer relies heavily on the generally average 3-D effect to keep the gameplay going. The surreal game.

With a little more than a mixture of very simple space poker scenes and a weird variation on Poker.

Across all formats the game is the same with little use made of respective machines' capabilities. The Commodore version suffers sluggish speed and limited colour in use. The 16-bit versions look just like smoother, faster-moving 8-bit versions, despite a great 3-D effect. Only the CPC and Spectrum versions come off any better making the best job they can of a limited idea.

TGM rating: Amstrad CPC -60%.

Spectrum -45%.

Atari ST -50%.

Commodore 64 -33%.

Forwards and backwards to the past

TIME SOLDIERS

Sega SAM ■ £24.95 cartridge

Based on the successful SNK coin-op, we're very firmly in Sam Wan's territory with the action spinning on time zones. The soldiers, Yohan and Ben (who makes

up these names?) hop into a time tunnel and spin back and forth through time searching for their mates in the primitive era, ancient Rome, medieval Japan, World War I and Future World. When the D-Scanner locates a trapped warrior the Time Soldiers need to fight the way through to the era's big boss, and kill him in order to rescue their comrade.

Soldiers, guardians and other foes particular to each era give the Time Soldiers an excuse for maximum possible use of all weapons in hand. Power-ups, speed-ups and extra weapons can be picked up — essential to kill the bigger boss.

opponents.

Unsurprisingly jacking in on the Sam Wan's and Secret Command type of game, Time Soldiers is a little different with



its time travel concept providing variety in both graphics and gameplay. Shockingly unoriginal but still a relatively unexploited idea on the Sega, Time Soldiers works especially well as a two-player shoot. Two continue-players per Time Soldier are a welcome bonus as well.

The game follows the Sega trend with a free time and the now standard Sega Risk or Throwing in its two-pretty-much. Variety is a common factor throughout each level with plenty to see, some visually impressive time zone bosses and a difficulty level set just about right.

TGM rating 70%.

Shockingly unoriginal but speedily exciting for two players.

FACE OFF

Atari ■ Atari ST £14.95

One team game easily converted to computer is ice hockey. In Atari's attempt, the game can be customised before the match begins. The length of each quarter, participating teams, the colour of their uniforms, skill level, and type of competition (single match, league or cup) can be changed before the face off.

Control is restricted to running, hitting the puck, hitting other people (if) and targeting opponents. The base of team games is the computer selection of a player who isn't nearest the ballpuck, leaving you with ground to make up. Through this isn't the case with Face Off, it's still a problem keeping up with the puck as the fast hockey players crawl along at a tortoise pace — and terrible scoring only slows the game further.

Though limited and tightly designed, the sprites are very nicely animated as they skate realistically around the rink. Unfortunately there's some flicker and hockey players sometimes spin aimlessly. Poor artificial scoring is made worse by a clumsy collage supposed to represent the spectators.

TGM rating 40%.



Face Off! Not an insult — just the original name for this slow-playing ice hockey game.



JOURNEY TO THE CENTRE OF THE EARTH

Rainbow Arts ■ Atari ST £19.99
Amiga £19.99

Ever tired of Sheffield? No, well it's in Iceland and it's where your journey to the centre of the Earth starts. If this seems impetuous of you, worry not for your health and progress is marked on a special screen where you may use medical supplies, redistribute ration and analyse fossils at your current layer to help choose the next move toward the Earth's core. Text and graphic screens are interspersed with arcade sequences, where you avoid falling rocks and stampeding mammoths, collect falling water and hit planetoids.



It's okay — but not necessarily worth travelling to the centre of the earth for

The game comes from the *Joan of Arc* programmers, and its intentions can be seen throughout, but unfortunately there's very little to it. Strategy is little more than ration juggling and the arcade sequences are precisely over-simple whiffing dodging games with some advanced varied responses.

backgrounds, the neatly defined option screens and well digitised screen images are the same on both versions (though they're perhaps a little clearer on the Amiga), but are overlaid with poorly designed and animated sprites in the arcade stages. Sampled soundeffects, screams and mammoth roars provide noticeable lacking. This is a disappointingly uncomplicated game after the superbity involving *Joan of Arc*.

TGM rating: Atari ST 5-6%
Amiga 5-5%

DRAGONSCAPE

Software Horizons ■ Atari ST £19.95

Here's another bog-standard shoot 'em up, only in this case you're riding a dragon on a mission to deliver objects. *Dragonscape's* implementation is not first rate. Only about



"Doesn't drop it" cries a Northern voice if you wrongly deposit an artefact.

Half of the screen area is used for the overhead scrolling and that, although quite speedy, is also quite jerky. The dragon's definition and animation is neat, and back-

grounds are pleasant enough, although level opponents are crudely designed. Simple effects and music aren't particularly assisted by generally indistinct speech. There could be more interesting things to do with 28 quad than play with this program.

TGM rating: 5-6%

GO-MOKU/RENJU

Atari Minigames ■ Atari ST (unpriced)

Ancient and honourable Oriental board game appear on ST. But the superior man buy the board instead.

Go-Moku is very simple: on a large grid, each player places either black or white stones, one each turn. The first player to get five of their stones in a row wins.

Renju is much the same, but here lots of restrictions are placed on the black player, to take away his supposed advantage of having first go.

The possibilities are vast enough to make Go-Moku/Renju instantly addictive and enjoyable... in many ways more subtle than chess — and the computer adversary is useful. But you can buy a suitable board in Hamleys of London for £3.75...

TGM rating: 4-5%

X on X off with yet more Xor

PROSPECTOR IN THE MAZES OF XOR

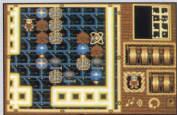
Logotron ■ Amiga £24.95

This is an unoriginal but satisfying follow-up to the puzzle game *Xor*. Equipped by the prospect of hidden treasure and equipped with jet-packs, Harky the hero and Pip the robot enter the mazes of *Xor* in search of their fortune.

But the multi-way scrolling mazes are laced off from one another and the only way out of each is to collect enough balloons. Aspelins, rocks, rolling spheres and decoy balloons upset the process of balloon gathering, and on top of this the maze must be collected within two thousand moves.

The Amiga is used well, each maze scrolling smoothly and sporting different attractive graphics with good solid music to project it.

TGM rating: 7-8%



The Games machine

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Discussion

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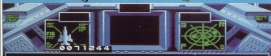


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THE SHAPE OF GAMES TO COME



How do you bring a **game** to life? Jee Sam's Argonaut team are using the latest techniques of 3-D **illusion** for their state-of-the-art flight sim **F-117A Aggressor**.

In this month's instalment of the Argonaut story, 3-D graphics designer and animator **Daniel Emmett** shows how the screens can get up and go.

One of the most important features a game must have is variety. Of course, it's not possible to write an infinitely variable computer game, because the machines have limits, the program has limits and even the programmers have limits (well, nearly). But it's still possible to have a tremendous amount of variety in those if the game is well-produced.

In a 3-D game, if you have only a few simple shapes, the player soon gets used to them – and eventually gets bored. So you need as many different shapes as possible. The original *Starfighter* had about 27 different objects, but for the first product I worked on at Argonaut – *Starfighter 2* – I designed just over 150 objects, about 30% of them animated in various ways. At the time I thought that was a lot, but now I was revealed that *F-117A Aggressor* was to be even more complex.

The basic shape list for *Aggressor* consists of approximately 150 shapes. But whereas a *Starfighter 2* shape would consist of perhaps 20–25 points, a fighter aircraft in *Aggressor* can have anything from about 40 to 70 points. For example, the Lockheed (Sb-7) Blackbird is very fast reconnaissance plane has 74 points!

That's considered quite a lot, since the more points a shape has the more processing time it requires in the game – and the harder it is to design. But the bonus is that it looks better, making it worthwhile – if the program is fast enough to cope with it.

Looks aren't everything, but they're

very important, especially in a simulation where the objects must look like their real-life counterparts. That's the advantage you enjoy when designing a fictional object: the "real" version of the object is what you design, because it's the original and only version.

A *Starfighter 2* blaster is the real blaster in silhouette, but an *F-117A Aggressor* can only be a model of a real F-117. That's why you must use more points to get something that looks real, it's not really your choice.

But how do you 3-D shapes work? Well, the basic idea is to define an object as a set of flat surfaces or faces, which are contained inside a boundary formed by a given list of points. These points are defined by their 3-D coordinates to give them a real position in space.

Any coordinate system could be used, but we use good old x,y and z (Cartesian) coordinates, because it's the simplest to manipulate – and for me it's by far the most sensible system. Imagine trying to design an F-14 Tomcat (remember Top Gun?) and animate its wings, all in spherical/polar coordinates ... no thank you!

3-D universe

Let's take a simple example: a cube. This would have eight points, numbered 0–7, each having the coordinates of one of the eight corners. And there would be six faces (0–5), each face being defined by a list of the four points that bound it – so it's four corners.

When you perform various

view from the cockpit, that helicopter is just one of some 150 detailed shapes in *Aggressor*.

"Looks aren't everything, but they're very important – especially in a simulation"

mathematical operations on the point coordinates, the object can be placed at an arbitrary position in three-dimensional space. In simple English, this means you can put it anywhere you like and have it facing in any direction.

And once you set up your test little universe, populating it with these 3-D objects, you can mathematically calculate what you'd see if you were sitting at a particular position looking, say, thatway, and project a two-dimensional view onto the screen. This view is then updated in real time as the objects move about and your viewing position changes.

That's fine for simple objects. But what happens if an object has to be animated? Say I want to design a jet-like shape with wings that flap, so it actually looks like it's flying.

The object has to be defined as a series of frames, each one slightly different from the last, so when the frames are displayed in the required sequence in real time you get the impression of a smooth, flapping motion. It's quite similar to making a cartoon.

The big problem with 3-D graphics is the processing time consumed by all the maths, and of course it all has to be done in real time, when the game is being played. The more objects you have to deal with and the more complex they are (both more points and faces), the greater the time taken by all the calculations, and so the slower the game will run.

If the game is too slow, it's unusable. Animated shapes look particularly bad if they're displayed so slowly that the individual frames are distinguishable, instead of a smooth continuous motion – it completely ruins the effect. No one would go to see *Star Wars* if it ran slower than *Star Wars* if it only ran at two frames per second, so why

"The big problem with 3-D graphics is the processing time – if the game is too slow, it's unplayable"

ROBIN HOGG'S PLAYING TIPS

■ YOUR GUIDE TO BETTER GAMING ■

■ ZAK MCKRACKEN
AND THE ALIEN MINDBENDERS
All formats

This month's Star Tips, from **Mike Hawthorn** of *Baseball*, form the first installment of our complete *Star* bibliography solution. Watch next month's *TQM* for more tips on how to lead the *Star* Minutemen.

Put up the fish bowl. Open the driver door and pick up the phone bill. Now go to the desk and open the desk drawer. Take the money and close the desk drawer. Use the fish bowl with the lamp. Take the wallpaper which is on the right wall, and use it in the plastic cart which is under the desk. Open the door and go into the next room.

Plug up both seat cushions, and pick up the remote control which is hidden beneath one of the cushions. Use the power cord, which is tied to the TV, with the power button. You can now use the remote control to watch on the TV. You can switch the bar to being at your feet, but it won't help you, certainly. The same.

Switch off the TV by using the remote control. Pick up the buffer unit and open the cabinet. Now take the cassette and use the yellow stream with the four wallpaper. Stick to the fridge and open it. Pick up the cover and connect the buffer unit.

Return to the bedroom and pick up the rug corner, use the buffer knife on the floorboards. This will bend the buffer ends. Now go back into the living room and do the rest of the floor.

Head to the bakery and purchase the best loaf three times. The baker will now throw a stone that'll fly — pick that up. Go to the fish market. Open the door to Lili's room shop and go in. Walk to the left window and cast the best butter knife.

Now leave the red suit, hooded, golf club, hat, nose glasses and guitar. Leave the shop. Walk to the hair salon and open the hood. Use the same catfish on the kitchen sink again.

Make back to 11th Avenue, get on the escalators, and the bell, and open the phone company door. Go in and give the phone bill to the representative. Go to the door.

Turn water to your house and use the chain forward at this point. Turn on the motor and turn it off again. Use the motor to work on the pipe beneath the sink. Pull up the transmission and go out of the front door. Walk to the back and use the pump. Make the front door pump, pump.

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Keep the catfish in the divider and get on the plane. Once on the plane, walk to the tail and open the door. Go in and pick up the tail-jumper. Walk on the wire. Now walk the catfish and walk out.

Slide the microwaves open, open it and put the egg inside. Close the microwaves and turn it on. Walk to the first seat and kick up the cushion. A lighter will drop to the floor, pick that up. Now walk through all the compartments along the corridor you find the paper fan. Put this on and wait for the alarm to end.

Walk to the automatic doors. Pick up the first branch and give the parasite to the first-headed parasite in the room. Use the first branch on the second set. Walk to the next entrance.

Now click on the **view** command, and move the cursor around the screen till you find the **shampoo** item; **read** it. Walk up to it and use the **pill** (it's on the table); **read** it; you can pick it up. Use the **pill** in command again to find the **pill**. Use the **read** with the **pill**, then use the **tree** branch with the **pill** and finally use the **pill** on the tree.

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Published online 12 January 2006 in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/anie.200525811

[illegible]

Go to the phone. Walk through the automatic doors and go to 1400 Avenue G, to the door with the Hospital T-12, and use the key crystal in the drop cell. Walk within the door space entering what looks like a van.

For more tips and the command-line interface, which allows you to script these other parameters - **Source**, **Method** and **Locale** - as well as **Size**.

Control the door and walk back to T-20. Jump on the bus. Now switch to April. Pick up the bottle, and then pick up the plastic card which is hidden beneath the bottle. Walk out the door and go to the bus. Switch to Jack and use the key.

When the door opens, use the cashcard in the card reader. Switch to Arrive and use the cashcard in the card reader again. Now use the reservations terminal and buy a ticket to London. Go to the plane, walk through the automatic doors.

Switch to the end-use representation
 provided by the *Product* class. While in



the plane. Over the back to the bus, and he'll give you a bottle of whiskey as well as returning the book. Use the reservations terminal and buy a ticket to Cairo. Walk to the plane. Use the reservations terminal to buy a ticket to Kathmandu. Walk to the plane.

Walk outside. Now walk to the guard and give the book to him. The guard will open the door for you to go through it. Walk to the plane and listen to what the man is saying. Go back outside. Walk to the gate of the plane and use the lighter on the gate. Now go left to the jet and pick up the magazine. Walk back to the jet, and use the cashcard on the license plate.

Use the reservations terminal and buy

a ticket to Kathmandu. Walk to the plane. Walk outside. Now walk through the jungle till you come out of it. Walk to the woman's hut and go inside. Give the photo to the golf club. The changes will now lead you outside — then he and two other natives will dance around a fire.

When they stop, they'll look up and down. You must make a hole in the order in which they do this — you'll need it later in the game.

Now go back through the jungle to the airport. Use the reservations terminal and buy a ticket to Cairo. Walk to the plane.

Use the reservations terminal and buy a ticket to London. Walk to the plane. Use the reservations terminal and buy

a ticket to San Francisco. Walk to the plane.

Use the reservations terminal and buy a ticket to Lima. Walk to the plane. Now walk outside.

Walk through the jungle till you've worked your way through it. Go over the fence under the big tree. Then use the blue crystal in the tent. You can now control the movements of the bird.

Try not to let the birds know where you are. Go to the left and pick up the sword. Now make your way back to the jet and give the sword to him. Switch to jet and make your way back to the airport... and that's where you'll have to remain till next month.

■ SWORD OF SODAN

Amiga

The surprise success of Doctor Doom's Fearfall has created hundreds of frustrated players — but that no longer applies to the Amiga version of Doctor Doom's Fearfall. The surprise success of Doctor Doom's Fearfall has created hundreds of frustrated players — but that no longer applies to the Amiga version of Doctor Doom's Fearfall. The surprise success of Doctor Doom's Fearfall has created hundreds of frustrated players — but that no longer applies to the Amiga version of Doctor Doom's Fearfall.

DOMAIN EVENT

■ BAAL: maps of the three domains

Kevin Griffiths of AlphaGraphics produced these detailed maps for Psychonaut's first, showing the coordinates of all the rocket paths.

Rocket pad

Rocket fuel

Parts of the war machine



Start

Finish

Force field generator

S
F
1

Weapon cartridge 1

Weapon cartridge 2

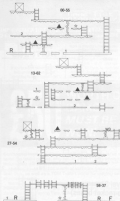
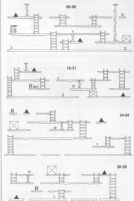
Refueling point

W2

W3

R

Level 1



In general

Save positions for later levels (if oportuno), and try and to keep as many as possible for the last level — where you'll really need them. There's no time limit so don't rush to complete a level, unless you have the power shield activated and want to visit on the next level.

Level 1

As soon as the level begins jump forwards until you hear the guard telling you to halt, then begin attacking. Jump as close to the guard as you can to avoid being stabbed.

Level 2

When you're between the single and double spikes attack the guard. Instead of following him, back off a little and then jump forwards and hit him when he approaches.

Level 3

If the first two men are too far away or too fast with a knocking series, just charge to get over and done. The men will then come a little closer, allowing you to hit them with the knocking strike.

Attack the giant with the overhead blow. But never jump into

him, because his club will drain your energy.

Level 4

To hit the fat guys, just kneel and stab. The dual sprites will continue to jump into your sword till they die!

Level 5

When attacking the combies, always kneel down — this will prevent you from being injured by their arms and the substance they spit at you.

Level 6

Use the power shield — this will

stop you from falling into the traps. Jump towards the man and continue to hit him. If he runs away, follow him.

Level 7

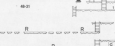
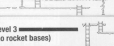
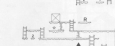
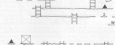
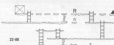
Walk forwards till you're within the body on the wall. You can kill the flying creatures with an overhead blow. Use a magic capper to kill the man at the end of the level.

Level 8

Be prepared to jump the last that rushes along the floor. And the level gets more difficult when walls start to cave in. However, if you



Level 2



Level 3 (no rocket bases)



keep looking at the top of the screen: you'll get an early warning when a wall is about to collapse.

The fire will stop when the next space opens. There are more clouds than the fire, and you'll lose a little life if you get impaled. Be conservative: move on avoiding the spikes than the walls.

When you reach the border again, walk to the edge of the two pools and wait till the first bubble is almost at the edge. Then jump for water level 1.

When you've jumped into the first pool, time your next jump very carefully: because parts of the floor will crumble away if you jump too early. When you finally reach the stone shell, kick it in the teeth

to make it slide backwards and reveal the exit.

Level 8
Kill the two pairs of creatures with the overhead blow. Jump past the caterpillar-like creature when its head is as far down as possible. Now walk past the spider and a bird will follow you.

Walk back to the creature and the bird will wait 1. Once the bird has finished eating, walk forwards till the water starts to rise. When the water is below the bird's mouth, you should begin to jump.

Continue jumping till the water is above the bird's mouth. The wall will now disappear, allowing you to continue forwards again.

You can increase your hit

strength by hitting the grey creature in top of the wall. When they fly over you, use the overhead blow to hit them.

Hit the top of the fire with your sword to prevent them from singing yourself. And when the wall disappears, walk forwards to finish the level.

Level 10

As soon as you appear on this level, use the magic shield and jump towards the main. Hit him once to kill him, then jump to the right to complete the level.

Complete this level as quickly as possible - because you'll need the power shield on the next level.

Level 11

Jump towards the big creature and continue hitting it till it disappears - the power shield should last long enough for you to do this. Whenever the wizard appears, don't panic - you can actually jump over his energy bolts.

To kill Zorra, you'll need two magic shields and a power shield. When he fires lots of blue energy bolts at you, activate both the magic shields and the power shield.

Walk towards him and start to hit him. If you've used both magic shields, you'll only have to hit him two or three times to kill him. Now walk to the right to see the end sequence.

ELITE

PC

Thanks to David Gilling of Games, any PC Elite player can get 999999 credits instantly. You'll need the cheat, and a few command entries (as only in DOS versions 3.0 and higher).

Type **PCMAN** (press the RETURN key). The current directory name will now be displayed to the left of the cursor.

Now type **SETUP** (press your own **ENTER** key) and hit RETURN.

Type **STATUS** followed by the command name you're entering (see below table). A **Y/N** sign will appear as a prompt for input.

Enter **00100**, **00100** or **00101** of **00** and hit RETURN. Now enter **00100**, **00101** or **00102** of **00** and RETURN again.

Then type in RETURN, type **CARD** RETURN.

Type **WRITE** (followed by whatever command name it is), and RETURN. Now load Elite as normal and load the altered command.

ELIMINATOR: ACCESS CODES

Here are all 15 cheat codes needed for **Eliminator**, from **Shog** Research in Israel.

BARBARA, BLOOM, CHEER

COMBO, INCOMA, FLAME, GORGE, HAMMER, ICE, JAMMIE, KICKING, LAFFOOL, MIMMO

SPECTRUM CHEATS

■ Rambo III

Paul Brown of Liverpool heads quick cheat to skip levels in **Rambo III**. Press **ENTER**, wait and answer at the same time and, hey presto, you'll be immediately transferred to the next level.

■ LED Storm

Thanks to David Cathledge of

Stoke-on-Trent, anyone can smash a large score without even touching a joystick.

Just start the game and press the **ENTER** key before the countdown starts. The border should turn green. Press **ENTER** again, and you should quit the game.

When you start playing again, you'll appear on the starting grid complete with a large score.

Commander JABBERJAM

Present yourself: **LARRY**
Commander **JABBERJAM**
Commander **JABBERJAM**
Commander **JABBERJAM**
Commander **JABBERJAM**
Commander **JABBERJAM**
Commander **JABBERJAM**
Commander **JABBERJAM**
Commander **JABBERJAM**
Commander **JABBERJAM**

PULSE LASER



Commander **JABBERJAM**
00:00:00:12

Commander **JABBERJAM** **JABBERJAM** **JABBERJAM** **JABBERJAM** **JABBERJAM** **JABBERJAM** **JABBERJAM** **JABBERJAM** **JABBERJAM** **JABBERJAM**

THE C64 SOLUTION

If you're a C64 owner reading up on cheat codes, get contacting Mark Eason - for

Mark is offering a free help service providing **Fortran** and tips in the cheat codes.

Just send him your problems - mail to **Mark Eason - 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100** (Mark Eason, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100).

£50

WORTH OF GAMES MUST BE WON!

Don't keep secrets - share 'em! If you reckon you've mastered the latest games, why not let other TGM readers know before they die a miserable death?

And you could win £50 worth of software (your choice) for just 10p, as well as a TGM T-shirt (ideal for playing away from home).

We're always on the look-out for **EXCLUSIVE** hints, tips, POKEs and maps, for any format (including console), so send 'em in to: **Playing Tips, TGM, PO Box 10, Lutterell, Shropshire ST19 1ND.**

This glorious empire

SPACE 1889

Modeling rates, 200pp bandwidth
 General comments: bandwidth 10-15%

In 1999, Queen Victoria has been on the throne for 122 years, and Great Britain is at its mightiest. Thanks to the miracles of Victorian science, British warships rule not just the waves but the skies as well. Can you brave the hazards of interplanetary travel in the ecodrop, steam-powered ships of the ether, risk encounters with hostile Martians in the search for groves of marvelous "lifelife", dodge dinosaurs in the swamps of Venus and explore exciting new frontiers of the solar system? If so—*read on!*

[illegible][illegible][illegible][illegible]

The *Journal of the American Academy of Nursing* is a quarterly journal of nursing scholarship. Lines of inquiry in the journal are determined on a national level by a "number 1" team, which is chosen each year by a committee of 100 nursing scholars from across the country. The journal is published by the American Academy of Nursing, which is a national organization of nursing scholars. The journal is published by the American Academy of Nursing, which is a national organization of nursing scholars.

The game itself isn't intended for hard, tactical play, since you score combat points for being involved — the protagonist with the best weapons skill will usually win out very quickly, and awards are quite generous with a single good hit. However, there are a few caveats.

The immediacy of the book, moreover, leaves the real majority of the textbook free for background material. There is a chapter on the Victorian age, providing a total summary of the society, politics and people of the era. Twenty pages are devoted to the range of postwar social and economic

[illegible]

A large body of interesting information exists with students and teachers. Many teachers who are mentors by trade may conduct research by try and drawing new patterns of learning programs in new classes, which offer incredible educational opportunities for students. And of course the student may conduct research with their school's computer lab. Many possible mentors are available, such as Francis Page, meteorologist, grant, novelist and of course Sydwell Lyle.

Many add-ons and adventure supplements for the original TTRPG system are scheduled for release in the coming months. The new one

[illegible]

Also available in Sky-Gullies of Mars, the investigators of ships for ships content about the red planet, which shows two papers to fight out further between lines of the situation, and the social conditions of the situation.



BACK

COMPUTING—

What's in it for



A career with computers promises bright lights and big money — if you've got the brains, they'll make it worth your while. And games programming is only the tip of a massive iceberg of opportunity, as TGM reveals in this month's complete guide to jobs, training and your future in your hands.

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Too many broken hearts

That's what this month's top letter-writer has — he's angry about typed-up software houses wasting the incredible potential of the 16-bits. Will it happen to the Rania Multi-System too? See what he thinks, and then read our opinion.

● Page 95

MSX

**CANCELLED
DUE TO
LACK OF
SUPPORT!**

What turned the compatible dream into a nightmare? This month's Controversy column uncovers the REAL reasons behind MSX's failure... and reveals how it's slowly coming back to Britain.

● Page 102

INDUSTRY: WE WANT YOUR PRODUCT NEWS! CALL BACK BYTES
EDITORIAL Robin Candy ■ ADVERTISING Lee Watkins ■ 0684 5851

BYTES

TGM018

CAREERS DOING IT FOR MONEY

Glam job, guy! There's leadsmoney and a lot of opportunity waiting to be tapped by programmers, engineers and journalists.

If you ever sat up all night struggling with the mysteries of Novell's NAKED, marvelled at the finished slickness of an Amiga-share painting, or tried to recreate the Shop Boys with an ST, chances are you've coped with the thought of doing this forever... for ever.

comes to figuring out what the microcomputer hardware user is going to want: what does they'll put in, and what they'll expect to get out.

For thousands of opportunities exist in other areas of computing, from programming to input to journalism. And, just as more computers are found in businesses, many programming jobs are there too — working for companies big enough to afford their own main-frame installations with teams of computer staff. Governments and big public bodies, like the police, and various academies too.

Of course, this may be true for you're working on a particular kind of program all the time - books and insurance, a newspaper, for instance - will usually want software to cope with the fine details and massive volume of their financial deals. But the advantage of that is that you can quickly gain expertise in a particular area, and cover almost anything.

For what most of these employees want is business knowledge as much as computer knowledge. Large installations that's the jargon tend to use very high-level languages — things like Java — which aren't particularly difficult to understand, so the actual act of programming is simple.

It's quite different from game programming, where mastering assembly or machine code is a foreboding task in itself. The real challenge of business automation

comes to figuring out what the microcomputer hardware user is going to want: what does they'll put in, and what they'll expect to get out.

Of course, there are programmers writing off-the-shelf business packages like word processors or spreadsheets, usually for PCs, and these programs are likely to require more technical knowledge. For a start, RAM is limited on PCs (even when it's measured in MB), and must take all the results of the ready-to-run in as much code as possible for a high-powered program. By contrast, as far as programs code is concerned, mainframe memory is virtually unlimited.

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How'd you start? As a driver's instructor might be to take a university or poly course in computer studies, but this really isn't necessary unless you're planning to be a high-powered academic computer user.

If you do want to go to university, probably the ideal course is a joint degree in computer studies and business studies. To add different universities and about 80 papers provide computer training, so there's all the choice you could want, and some courses are specialised. For instance, the universities of Bath, Birmingham, London Imperial College and Bath all offer software engineering (jazzes for microcomputer) degrees.

As-level computer studies won't do any harm, but maths is probably the only route essential.

Alternatively, jump straight into the industry. This can be done either through a short course, or by joining a large company's training scheme. Courses are sometimes run by local education authorities (LEAs) and sometimes by executive private colleges.

you can find one in your area, or Lill's seems to be probably just a good used a hollow, low character.

Over a few months, you'll learn the principles of computer systems, perhaps a little about hardware, and one or two languages, most likely COBOL (Common Business-Oriented Language), now little-used but still full of laughs, and one other. The difficult but powerful C language is the focus of the month right now, so if you find a course that teaches C, grab it.

Copper and training schemes will give students the same education as a short course, but usually with the promise of a job at the end if you do well enough. Things you have on the bottom rung of the ladder. But of course there's some comp-

[illegible]

Because comparing is a relatively new industry, it hasn't become codified and restricted by a status parking under the same, say, manufacturing and distribution. Actually, it's not even a small, specialized unit in

Germany, Belgium and the Netherlands are levying double rates.

Jobs are available all over Britain - wherever there's business. In fact - so you don't have to be subjected to London. Working conditions are generally appalling. Colleagues are wrong. And an increasing number of computers are now allowing programmers to work at home some of the time, communicating with their office by modem.

These groups believe it's no secret that they're getting

The computer world, like any major industry, has thousands of hangers-on — well, perhaps that's an extreme phrase. But just as an army has regiments of majors, lieutenants, radio operators, cooks and boot-polishers behind every line in the field, so there are ample supporting roles in computing. And though these people don't directly produce software or hardware, it would never be done without them.

Keywords: social support; coping strategies; self-esteem; depression

Telling IT like it is

Physical education can have either
neutral, positive, or adverse effects
on the health of children and adults.

[illegible]

But even when there's been a change of teachers or administrators, principals struggle to understand why the situation isn't changing as

Source: *Journal of Interpersonal Violence*, 2006, Vol. 21, No. 10, pp. 1293-1306. Copyright 2006 by Sage Publications. All rights reserved. This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

The current situation of
the world is very dangerous.

including a "partial" agreement, while others "never" broke their original belief. For example, 1 found no differences, and others reported "moderate" to "strong" effects. And finally, some studies used a "partial" belief, while others used a "strong" belief.

Marketing Results

THE STATE OF TEXAS,
COUNTY OF _____

over to all of trading and my immediate concern. There are now 12 independent professional brokers, ranging from pure commodity to agricultural and life, and two major players, a commercial bank, a corporate and professional, or a general

There is no one-size-fits-all approach to this. Companies must identify their strengths and weaknesses, to maximize what they do well on and minimize what they do not. It is usually a good idea to

you can never hold down a respectable position. Payroll advertisements in *Computing*, one of the main newspapers for job ads, showed that the leaders of the pack can

- Up to \$21,000 as an absolute maximum liability. Above a company's experience of COROL, the maximum liability is 10% of the company's experience of COROL, capped at \$21,000. This means that some knowledge of the financial history of the company is required.
- Glasgow City government also offering up to £17,000 for accident prevention work – again – just a year's experience of COROL, capped at £17,000. This would imply that the company would have to have a good knowledge of the financial history of the company.
- North Devon County Council offering up to £17,000 for accident prevention work – again – just a year's experience of COROL, capped at £17,000. This would imply that the company would have to have a good knowledge of the financial history of the company.

Of course, there are the phone calls, and only the best will get them. But even for beginners, the practical shortage of computing staff means pay is good. The National Curriculum Council in fact were recently offering £2,000 for a 20-year-old to help run the administrative side of their installation - effectively a beginner's, or near-beginner's, wage.

Computing is a flexible career. Experienced programmers and analysts can get paid on the Comscore quite easily, because William's computing community is more sophisticated than most of France's. Indeed, François, CEO

administrators, who keep a tight rein on the network by making sure all the hardware, software and users are in order, it's the system administrators who steps in basically when one of those machine network-inflicting viruses is discovered. ■

Technical authors, writing the manuals for software and hardware, depending on the product, may be asked to make a complicated program understandable by idiots, or thoroughly cover all aspects of a hardware system for the benefit of technicians.

Computer input is a big business in itself, but like hardware design it's really an area of electronics, and you'll have to do the same thing.

■ **Further information:** there's no one truly dealing with computer trading and work, whether here or elsewhere – it's a complex business in practice.

books are advertised in the industry's press (notably Computing, Computer Weekly, Datalink and Computer Talk, which should be available in large libraries, but aren't at newspapers), and in the Guardian on Thursdays and Saturdays. Alternatively, my mailing insight to a personal envelope — any large company or institution — and you may be lucky.

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Produce your own Epyx

Epyx don't just program games — they've got their own Designers Series of software, which includes Frog Magic and The Name That Pigeon.

Frog Magic is similar to Electronic Arts' Prince of Persia — it's a card memorization design which includes a number of picture screens.

The package also has a library of graphical and typographical screens and icons from parties to school-work. And if you can't find a suitable image, just use the built-in art utility to design your own.

Frog Magic is available for the PC and Apple II (both £24.95).



Price Money: For the good looking in the house

for the PC.

The package provides a number of services for the employee, including staff files, alarm files, time sheets, work in progress, work changed to date, and the inventory index.

Chet Miller, the previous Office Service package, provides prior lists and quotations for jobs. Each package cost \$495.95.

Announcements: J-F Systems Owner Harrogate, North Yorkshire, UK 7 585 00 (04235 515115).

ARCHIVEDES

3-D anims

This month's 3-D graphics special may be dominated by Amiga animation packages, but a Windows owner won't feel standing still — thanks to Claret Systems Supplies, and their 3-D animation package *Render Render* (£79.95).

The program allows the user to design scenes using 3-D objects. It's then a simple matter of saving the scenes together to complete your animation.

Render Render also uses advanced ray-tracing algorithms for a realistic effect. Ray-tracing is

a novel way of producing stunning reflections and shadows in a number of objects; they always take into account all the relevant light sources before the exact shade of each point is determined.

James Macey Supplies: 10 Matthews Road, Huddersfield, West Yorkshire HD1 2JG ☎ (0474 44511).

PC

DTP bundle with Aries PCs

Watford Electronics have struck a device bundle. Aries's DTP package *Aries* with their range of Aries PCs — compatible.

Available in Black, Silver, Gold and Silver with 128K or 256K of what you see is what you get's, 3.5in floppy DTP package.

Also included in the bundle is *Illustrator*, a word-processing package featuring spelling correction and mail merge, a serial mouse and driver, 100-0000 version 1, 1, and the PC Organizer software providing a pop-up diary and memo book. The entire bundle is worth about £300, say Watford.



Putting publishing on more desktops. From left to right: John Pearson, right, and Richard Hocking, right.

James, left, sits for a super PC deal. See how desktop DTP bundle with Aries PCs.

Reading matter

The Media Lab Welcome to the future world

Even wondered how you put a whole room on video? Or even a temporal map open? Or map the computer showing where you've got a hangover? These are the kind of things they're

accomplishing today in the Media Lab, a research laboratory experiments at the famous MIT, Massachusetts Institute of Technology (MIT).

And this 385-page in-depth look by noted American computer journalist Kenneth Brandt (*Inside* South Software Company, Seattle) does not go into either spirit of the Media Lab, but into the history of the lab. It's not just a report, no, it's a history of the lab, by a man who was obviously very impressed by the place. (Brandt spent six months working there.)

But sometimes it would be nice to give the philosophy of technology a rest, and focus a bit more about the machinery behind the futuristic dreams.

Brandt gives enough issues of

due, both in the text and the 24 pages of color photos, imagine a computer handling 100,000 users, some polygons, or the ultimate parallel-processing box — the Connection Machine, with 65,536 processors.

And what's really remarkable about the Media Lab is that even though three things may never become common — or at least not in our lifetime — they actually exist right now, in the Media Lab. It makes you want to visit Massachusetts.

The Media Lab Penguin paperback (£1.99, ISBN 0-14-006700-5, Any bookstore should be able to order it). **Randomly Page**

Blue Magic In the beginning was the PC

Probably the best of the recent books about IBM's renaissance comes of power, *Blue Magic* makes a refreshing change from the tales of management squabbling which dominate so many big business stories.

Instead, it's a straightforward, chronological account of the development of the PC — and it

shows up some amazing misadventures. For instance, when IBM introduced that standard-setting machine in August 1981, they were expected to be selling within months, it had proved six times as popular as the designers had hoped.

There's also a detailed look at the disastrous PCs project of 1983, a failed attempt to produce a cheap home PC — it's only very recently these have miraculously appeared on Amazon.com and Commodore.

Author James Cagney and Ted Levins are both experienced American computer writers, but perhaps because IBM is such a megapowerful force on the American scene they often take the astonishing 'gee-wha, wow's' about innovations somewhat seriously.

The book is sometimes deeply written, too, reporting stuff and venting from one topic to another (then compartmentalizing to the grim details of keyboard design). (After it's over, of course, it's probably a case of information overload, then a sudden burst of a lot of information from PC history, but can't quite figure how to fit it together.)

Blue Magic is far denser than these topic problems, and by an occasionally poor index (as mentioned the new OS/2 operating system, though it's in the text).

But it's a fascinating insight into the early days of micro, not only the PC, and for anyone interested in how computers came to be, it deserves a place alongside Tracy Kidder's *The Soul of a New Machine* and Ian Adamson and Richard Kennedy's *Inside And the Inside Technology*.

Blue Magic: The People, The Power

And *The Politics of IBM* (The IBM Personal Computer), Stanford Books, Stanford £24.95, ISBN 0-8-245-1344-5. Any good bookstore should be able to order it.

Obituary: The Bug

It's sad day for the computer industry. The bug industry, which has been published periodically for the last few years, is about to disappear.

For, after 15 years, the editorial team — James Lewis, Jeffrey Dancy and Barry Lewis — have decided to call it a day.

James and Jeffrey will be starting an university in the autumn, while Barry is moving away from London. And with the editorial team dispersed around the country, it will no longer be feasible to produce the *Bug*. But their work will still continue to appear in other magazines — perhaps including TGM.

The *Bug* provided news, reviews and playing tips for the Spectrum, CPC, PC and Amiga, but it was most well known for its strong attitudes against software piracy and viruses.

The final issue will be a commemorative edition packed with letters, reviews and tips — shows even the possibility of a commemorative cassette game, *Wired 250*. It goes on sale at the end of July.

Bug Publications: 20 Corbett Avenue, Merton SE8, London SW15 1BQ. (081) phone lines, check for details.



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Table 10.17.13.10



Stocks of Home-Business Computers

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Service centre for Amstrad, Commodore, Spectrum and other makers of home computers, audio, video and Hi-Fi.

We also cater for electronics students and Academics.
1000 Unbridge Road, Hayes, Middlesex. UB4 0PL.
Telephone: 01-873 3100.

ADDITIONAL INFORMATION Telephones promise to return the console to you just three days after they've received it. They're also the official UK repair centre for Sega and Commodore.

COMPANY Versa Micro-Maintenance

ADDRESS: Millers Park, Fenny Road, Lymington, Surrey GU14 5P. ☎ 0208 60596

COMPUTERS REPAIRED Spectrum, Amstrad, Commodore.

PERIPHERALS REPAIRED Printers, monitors.

PRICES Range from £19.95 for Spectrum to £35 for limited PC/XT/2.

ADDITIONAL INFORMATION Estimated six years' approval by limited.

COMPANY Video Vault

ADDRESS: 147 High Street West, Bristol, Devonshire BS13 8JL. ☎ 0804 60555

COMPUTERS REPAIRED Most.

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Phone.

PRICES From £19.95, according to machine.

WARRANTY Three months.

ADDITIONAL INFORMATION While you wait, service in Manchester.

COMPANY High Computing Home Works

ADDRESS: 107 High Street, Hyde, Cheshire SK22 5JL. ☎ 0625 66075

COMPUTERS REPAIRED Most.

PERIPHERALS REPAIRED Printers and monitors, but check first that the service is available for other models.

PRICES According to the problem.

WARRANTY 90 days.

ADDITIONAL INFORMATION High Computing will also check, clean and computers which are not obviously faulty.

COMPANY WTS Electronics

ADDRESS: Stone Master House, Chard Road Lane, Cullin, Devonshire

PL1 8JL. ☎ 0362 48140

COMPUTERS REPAIRED Spectrum, Commodore, BBC, others.

PERIPHERALS REPAIRED Phone.

PRICES £19.95; fixed price for each machine.

WARRANTY Three months.

ADDITIONAL INFORMATION WTS Electronics promise to complete the repair within one week from the day they receive the machine.

COMPANY Wylie Electronics

ADDRESS: Unit 307, Atlas Village, Ogden Lane, Ogden, Greater London AD2 5RQ. ☎ 01 452-5660

COMPUTERS REPAIRED Spectrum, Commodore, BBC, Atari, PCs.

PERIPHERALS REPAIRED Phone for details.

PRICES £15 upward, depending on machine.

WARRANTY Three months.

ADDITIONAL INFORMATION Repair done in one week.

COMPANY Electronic & Computer Services

ADDRESS: 1000 Storage Road, Hayes, Middlesex UB4 9PL. ☎ 01 877-7100

COMPUTERS REPAIRED The full range of home computers - that includes all the well-known 8-bit and 16-bit machines.

PERIPHERALS REPAIRED Electronic & Computer Services will repair some peripherals, but write or phone for details in case yours isn't included.

PRICES According to the problem. Phone for a quote.

WARRANTY Write or phone for details. The warranty only covers the problem repaired, not the whole computer.

ADDITIONAL INFORMATION Turnaround varies, depending on the problem, from two days to a week.

Electronic & Computer Services will repair parts. Again, write or phone for details.



It's a poor man's world

Worried about repairs costing more than you bargained for? Achieve more comfortable peace of mind with VHS Technical Services: the South London company charges standard prices for each machine, which covers everything except very major repairs like keyboard or disk-drive

replacements.

Spectrums range from £11.95 to £17.95 (depending on model); C44 is £14.95, C128 £24.95; CPTs range from £11.95 to £14.95; and all PCs are £14.95.

Basic software, VAT and return postage within the UK are all included - and there's an unusually long

four-month warranty.

This is the place to go if you're the owner of a sick Open Discovery, too. Its partner Ian Vandery is off-duty responsible for the British Discovery Club.

VHS Technical Services: Unit 4, B Nursery Road, London SW9 6PL. ☎ 01 734-7762.

Attention repair firms: if you would like a mention in the Back Bytes Repair page, please send the relevant details to Back Bytes, TCM, PO Box 93, London, W9 1PH. (If you're looking a phone number and the manager's name for our firm).

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1004	1.00	1.00	1.00	1.00	1.00	1.00
1005	1.00	1.00	1.00	1.00	1.00	1.00
1006	1.00	1.00	1.00	1.00	1.00	1.00
1007	1.00	1.00	1.00	1.00	1.00	1.00
1008	1.00	1.00	1.00	1.00	1.00	1.00
1009	1.00	1.00	1.00	1.00	1.00	1.00
1010	1.00	1.00	1.00	1.00	1.00	1.00
1011	1.00	1.00	1.00	1.00	1.00	1.00
1012	1.00	1.00	1.00	1.00	1.00	1.00
1013	1.00	1.00	1.00	1.00	1.00	1.00
1014	1.00	1.00	1.00	1.00	1.00	1.00
1015	1.00	1.00	1.00	1.00	1.00	1.00
1016	1.00	1.00	1.00	1.00	1.00	1.00
1017	1.00	1.00	1.00	1.00	1.00	1.00
1018	1.00	1.00	1.00	1.00	1.00	1.00
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1068	1.00	1.00	1.00	1.00	1.00	1.00
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1080	1.00	1.00	1.00	1.00	1.00	1.00
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1086	1.00	1.00	1.00	1.00	1.00	1.00
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1090	1.00	1.00	1.00	1.00	1.00	1.00
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1092	1.00	1.00	1.00	1.00	1.00	1.00
1093	1.00	1.00	1.00	1.00	1.00	1.00
1094	1.00	1.00	1.00	1.00	1.00	1.00
1095	1.00	1.00	1.00	1.00	1.00	1.00
1096	1.00	1.00	1.00	1.00	1.00	1.00
1097	1.00	1.00	1.00	1.00	1.00	1.00
1098	1.00	1.00	1.00	1.00	1.00	1.00
1099	1.00	1.00	1.00	1.00	1.00	1.00
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INFORMATION DESK

There's more to music than meets the ear, as one reader trying to set up a low-cost ST studio has discovered. The Back Bytes experts recommend best buys – and tackle yet more Amiga questions.

Cheap solution to ST sequencing

Q I own an Atari 1050TPE, and I'm considering buying a Yamaha PS3 680 synthesizer and connecting it to my ST via MIDI. What would be the best sequencing software to buy, bearing in mind I've only an budget of approximately £200?

A Once I've written my music, could I record it on tape on my 1050?

A Should I include either the Replay version 4 sampler or Pro Sound Designer in my set-up?
Andrew Murphy, Hull

B There are two packages in your price range. Dr T's MIDI version 2.1 (£49.95) and Hybrid Arts's cheap track (£19.95). MIDI is described as an 8-track sequencer for first-time users, and features most basic sequencing commands. It's also apparently compatible with Dr T's sophisticated 3.1 sequencer.

However, TIGER music writer Graham Wayne recommends the Hybrid Arts package – with 20 tracks, it's a good introduction to sequencing software.

MIDI is available from HCS, ☎ 091 234-1494. And you can order July Track from Synthesia, Manc., ☎ 081 883-1315.

C Yes. Provided you've got the correct connection leads from the PS3 680's output port to the 1050's input port, you shouldn't have any problems saving your music.

D Not Switcher Replay version 4 sampler nor Pro Sound Designer is of any use to you. Another ST isn't multitasking, so can't run the sampler software and the sequencer at the same time. If you really wanted to use either Replaster Pro Sound Designer in your set-up, you'd need a second ST linked to the first via MIDI.

On the right track to a PC Engine

I've recently read in TCM all about the new PC Engine. Could you please tell me where I can get hold of one and how much it will cost?
M. Mansfield, Loughall

The PC Engine is at last officially available in the UK – a firm called Micromedia are buying them in from Japan and selling them here for £224. Micromedia are also negotiating a deal with the Engine's manufacturer, NEC, which would see the console in the shops within two months.

Micromedia: The Mail Mail, Ludlow, Shropshire TF10 1PC ☎ (04303) 671879.

C64 goes public

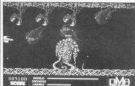
Is it possible to get public domain software for the C64 disk 750k, where from?
Matthew Taylor, Basingstoke

Kingsway Computers supply public domain (PD) software and hardware for a variety of computers including the C64/128, Amiga and ST. Software for the C64/128 costs £2.95 per 1.25-inch disk.

For a full catalogue send an SAE, specifying which machine you're interested in, to Kingsway Computers, 1411 Berkshire Road, Slough SL1 4JG ☎ 0753 1588125.

CPC Psyclapse

Could you please tell me whether there are any plans for licensed CPC versions of Psyclap's Bad and Mean?
Kevin Williams, Chichester



Answer: Well, the classic CPC?

There are no immediate plans to port either of these excellent games to the CPC, but Psyclap – who publishes the Psyclap label – say there is the possibility of conversions appearing later in the year. Keep us posted on the progress.

Amiga anxieties

The last resort

I've recently bought a second-hand design kit and a friend of mine has lost his Commodore's disk. The only

file to help me learn how to set up my workbench properly, however, I'm finding it very slow and tedious to use.



The Very First Amiga...reborn

READERPAGE

"With any luck, software companies won't let the Kenix console go to waste like the Amiga and ST"

Prizewinning reader Matthew Randall fears we may be disappointed — and adds a tip for arcade gamers:

QWERTY



The way of all silicon

Dear TGM

After reading your brilliant article on the Kenix console, one thought sprang to mind. This console, exactly what most magazines did when the Amiga and ST came on the market. There's no doubt to be that you buy all this new, up-to-date technology, but half of what you pay for is never used.

It's all very well having your portable 20 channels of sound, 4,096 colours and a blinder if companies never use them.

Take a classic example — the film. They said US Gold used all of their money on the licence and had very little left over for development. The game was terrible, but it still is sold.

There are only a handful of writers bothered to make their games worthy of the computers they're writing for, with any luck, software companies won't let the Kenix console go to waste like the Amiga and ST have.

Another article I liked was the section on the Atari clone. I've played *Brutus*, *Shadow Warriors* and *Raid* (which are well worth the money). One problem I have is trying to find that little bit of extra change to last the console time, which in some cases is a fair more than death played *Shadow Warriors* isn't.

But someone has already solved that sort of problem: with the *Photocard* you use no those nice green telephone boxes. Why isn't this same for affordable arcade machines, next to the console? There all you'd have to do would be take your 180-unit arcade card, instead of a packet of change.

Matthew Randall, Hounslow

What you say about sound potential is true. But say, 20% of Kenix Multi-Sync's potential is better than 20% of a CDTV's potential?

A *play-off* would certainly benefit players, but the arcade industry might find that they did some money because no one would go back to the beginning when they started a console. In the other hand, it would probably encourage people to play more — which you are afraid of.

Violence rules, or I'll kick your head in

Dear TGM

I have just read the article Are You Shouting 'Comfortably' In TOWNIE, about software violence. I think software violence is a good thing, as it allows me and my friends to take out our anger on something that is not real.

When I come from school, having been annoyed all day, and I load in a violent game, killing people who are not real (opposite truth) or watching squabbles that don't end up exploding into fire, I feel (I'm sure) in very satisfying, and will usually calm me down.

Before all this, though, I used to make my anger out on real objects (usually books or concrete walls).

Then work this way, too. When people watch violent films (such as the war films (Mr. Bond), all their antagonists can be taken down on the



Kenix Multi-Sync: will the power be wasted? (as the Kenix)

character in the film. This, again, saves real people or objects being hurt or damaged, forces that link films with real violence (such as Michael Ryan and Rambo) are common.

Anyway, Rambo is a good videogame. Americans, who only kill computers, I have never seen. I've seen many deaths. Michael Hughes, Hounslow, Surrey

A note: your intention are pretty slight. Kenix only 8045.

insurance can never be wiped away too by playing a game.

PC plea

Dear TGM

Why are home PCs not more popular in Britain? Americans see them as the perfect home computer, with their sophisticated hardware and wide choice of software. Despite the widespread Sinclair Professional PC being the



Cheap Sinclair PC: the new games machine? (as the Sinclair PC Plus)

side down. There are many rock-
low, affordable PCs around today,
many in rapidly expanding, and
cheaper computers are becoming
available by the Commodore

Any production line that is the subject of an OSHA or NIOSH investigation.

Right and wrong. A tip-off-the-scales
AC certainly beats the EU and America
in any cost-benefit analysis, but there is
one small catch: EU won't.

Un. 183.1

1000

The cushions are manufactured by local craftsmen. Quite often people will come out and buy the PC. Righter or Kanta Bilali-Spears has one form of someone brings me a new article which hardly kept a secret for the past two years and comes complete with built-in mattress and inflatable full-size F-15 double lighter with comfort hydraulic chair which houses a

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Some members of Bogan were rather concerned when they found out a national film festival, as some of their livestock stands (based on the recently-discovered sketches of Leonardo da Vinci, 1452-1519) had been a church-maintained secret till now.

Fortunately, though, we appreciate the difficulty — that if you start at the history of home-computing, it tends to run in cycles. A kind of 1980s machine appears and flourishes for a while; then technology changes, and a kind of 1990s machine appears.

As one of my 10's is a wife, her husband says the current plot of computer technology is over, there'll be a quiet period. After all, the computer market can only exist as many products? There's really nothing there.

Index

Figure 1

With regard to Fred Seaman's letter (The Good Old Days, TCMQ84), he says releases on the GCR were always eagerly anticipated, as almost inevitably they broke new ground in computing. He then goes on to say "what is really missing is the originality of the early ones."

Of course the early computer games were original — they could hardly fail to be, as nothing had come before them!

Paul Trencher also says that too many games today are no more than mindless shoot-'em-ups, but it was exactly this type of game—which formed the bulk of early releases (from *Breaker*, *Assault*, *Chiller*, *Defender*, *Scramble* ... the list goes on).

I, too, remember the good old days... and must admit that I did enjoy playing with my Atari VCRoids but at the age of eight wasn't too exactly discerning. The

idea that games were once his
most fun to play seems as true
from feelings of nostalgia as
"they don't make 'em like they
used to" syndrome.

Now I am the privileged owner of an Atari, and game-like *Rick Dangerous* convinces me that 'the good old days' weren't all that they're cracked out to be.

Journal from: Higgleson, Sydney
Kauai, Hawaii

Case Report

If I had owned a 1940 Ford long ago, I cannot understand anyone trying to say that Joe Kelly or Gene Insardi are there. The Ford Spectors have more playing than Alvin Karpis. I don't even see a pretty average black-and-white film. Please see the *Movie*

Now look back in the few years after the Spectrum and C64, the prehistoric era when *Slurpee Man* and *Gulp Man* roamed the earth. If the 57 and 58s can come up with games like *Garage Command* now, just think what they'll be like in a couple of years' time.

Name: Flanagan, Florenceville,
New Brunswick

It seems likely to argue whether prices are lower than today, surely the answer is no! But what are the costs?

do much papers say, "this newspaper always is now closed" I'll take more papers around that is

Revenge of the killer virus

Table 1

These features are computer screens (Black Box, FCOM14) was interesting and informative, but didn't the creators of games know what they're doing to a format like?

Downloaded At: 11:53 11 September 2009

I have about 15 piano stints in my Garage, and sincerely have worried about them. But last week my best original, *Operatic* [sic], mysteriously failed to load. Took it to my Garage—white label, no happen in a few 7-11 supermarkets and told me I had got the CD wrong.

My fall game was ruined, of course I did the water-proofed but all this would have my high scores, the more I hurry get a pirate game for fear of another worse attack. You should be pleased with pirates being a pirate game.

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Using physical software always carries the risk, and of course there's no guarantee of full-back up. It never gets better.

But regular Fidelity's warning: the best way to avoid foreign assets is to always turn the computer off between using different areas of software.

breakdown

1000

Thanks for producing a generally excellent mag. You may consider it strange to receive a letter from someone in my predicament, despite our share being a common thing in the cells. Given if they were, there aren't any power connections.

However, your map is excellent in keeping me up-to-date in the computer world, especially in market trends and popularity of machines. To receive the latest copy of TCM is typically the highlight of my month.

Ch Cooper, HM Young Officers Institution, Portland, Dorset

Thanks for your letter—and your comments about F&M are personal and for your review, which goes on some time.



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The Games machine

READER CLASSIFIEDS



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TJAJ will not knowingly place adverts for pirated software. In an effort to control the problem, we will not place any ad which doesn't include a full name and address. This number and Code names are unchangeable. Thank you for your cooperation.

WASTE

Abstract: Several Asian SARS epidemic waves have been reported, causing great concern. In this review, we discuss the epidemiological features of the SARS epidemic waves in Hong Kong, Singapore, Taiwan, and South Korea.

FOR SALE

Antony Robinson (1932–2014), *deceased*
 worked for the first 20 years of his career
 with the Royal Air Force, then spent
 20 years in the private sector, before
 returning to the RAF in 1982.

[illegible]

Correspondence: Dr. J. A. Roberts,
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name, and a short paragraph about your school. Submit your letter, drawing, and poem to the editor of *Journal of the American Dietetic Association*, 1675 Broadway, New York, NY 10019-6098. The deadline for entries is May 1, 2000. For more information, visit www.jadonline.com.

Source: Authors' calculations. Data: authors' survey, 2004.

DATE: 10/20/2009 10:00 AM
 BY: [REDACTED]
 FOR: [REDACTED]

[illegible]

Update: The New York *Journal of Medicine* published a study in 1997 that 70% of all men who undergo the PSA test believe the test is effective. The

[illegible]

Abstract: *Ch. hirtellus* is a common, EFB pathogen of various tree. Characteristic fruit and foliage symptoms, associated with various hosts, and a key to *Ch. hirtellus* species are given. The

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doi:10.1002/ajb.10001

[illegible]

2000 Springer: A series of three articles, part 1 of series including information about the 1999 symposium, abstracts from papers, and a summary of the symposium. The symposium began on April 6, 2000 at 10:00 AM.

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Attention Span/Range — 8 essential questions
 (1) What is a reference number? (2) What is a reference number? (3) What is a reference number? (4) What is a reference number? (5) What is a reference number? (6) What is a reference number? (7) What is a reference number? (8) What is a reference number?

Mathematics: each page has two sets. Students calculate 8 questions and then check their answers against the key given at the end of each set. The total score is 100% correct. One student is highlighted.

Age-27 women, all are pregnant and have been told by their doctors to stop smoking. Subjects were from three sites: Boston, MA; San Diego, CA; and Chicago, IL. All subjects were white, non-smoking, and had a high school or college education. The study was approved by the Institutional Review Boards at each site and all subjects gave informed consent before participating.

ABOUT THE AUTHOR: JOHN D. FORD HAS BEEN WRITING ABOUT BUSINESS SINCE 1980. HE HAS BEEN EDITOR OF SEVERAL REGIONAL NEWSPAPERS & IS CURRENTLY ASSISTANT MANAGING EDITOR AT FORBES. MR. FORD HAS A BACHELORS DEGREE FROM THE UNIVERSITY OF TEXAS AT AUSTIN.

Monroe National Forest, 2,000 sq miles, covering 100,000 acres of public land, including 10,000 acres of riparian habitat, 100,000 acres of forest, 100,000 acres of grassland, 100,000 acres of shrubland, 100,000 acres of wetland, 100,000 acres of water, 100,000 acres of wildlife habitat, 100,000 acres of historic resources, 100,000 acres of cultural resources, 100,000 acres of scientific resources, 100,000 acres of archaeological resources, 100,000 acres of paleontological resources, 100,000 acres of geologic resources, 100,000 acres of soil resources, 100,000 acres of mineral resources, 100,000 acres of energy resources, 100,000 acres of other resources.

Background: The present paper focuses on the influence of social conditions on the PTSD rates. The authors [1] and [2] have shown the effect of social conditions on the PTSD rates.

[illegible]

Journal of Management Education 32(10):1139-1150

ALAN KATZMAN, 64, former deputy assistant to then House majority leader, Charles W. Stenholm, is a senior consultant at the Washington-based Public and Budget Center. Katzman was a 1991 Pulitzer Prize-winning journalist at the *Washington Post*.

[illegible]

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[illegible][illegible][illegible][illegible][illegible][illegible]

Design 2002 will see games including *Call of Duty 2*, *The House of the Dead: Bloodline*, *Crash Tag Team Racing*, *James Van Der Zee* and *War of the Monsters* published and systems is expected to reach 100 million.

[illegible][illegible]

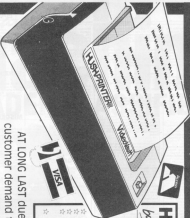
ALAN SHERIDAN is assistant professor, research director, IT project management office, and teaches software engineering, project management, and systems analysis at the University of North Carolina at Charlotte. He has a BS in computer science from the University of North Carolina at Charlotte and a PhD in computer science from the University of North Carolina at Chapel Hill.

Students also enjoy games involving the Old Legends of Texas. Students begin their projects with an Old Legend and then create a game to play with the legend. A legend is one of the Old Legends of Texas. The legend is a story that is passed down from one generation to the next. The legend is a story that is passed down from one generation to the next. The legend is a story that is passed down from one generation to the next.

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CONTROVERSY

MSX: the light that failed?

MSX may not rule OR, but it's still the best, says TGM reader Craig Bell

It's often claimed as just a faggote, is derided rarely in the courts by its users, but mocked by the topnotch-looking owners of STs and Amigas. These arguments fill up the lower pages of half-a-dozen magazines, but the machine doesn't have a single UK publication of its own, in fact, for a computer with so few users it's like the mouse that roared, the dispute over MSX has tapered down to little six years ago.

Is it the perfect mouse, let down by the indifference of software houses and the public, or was the establishment of an international MSX standard an unrealistic ambition, the biggest mistake we ever made?

The MSX story really began with the efforts of one man, Kazuhiko 'Nori Nishi', the so-called 'Mr MSX'. In Japan, Nishi and a few friends ran a small publication called ASCII, and though he may still at university, he incorporated a company with the same name. The following year he visited Microsoft, developers of an important BASIC, in Seattle and realised how far behind the West Japan was in computer hardware and software - a real thing, of course.

After Nishi decided to import American software to Japan, another original Microsoft's most important programmer in 1978 saw the formation of ASCII increased his company's had a exclusive rights to sell Microsoft products in the Far East. Nishi was still only in his early twenties.

Meanwhile, the American arm of Microsoft grew from what was, in the late Seventies, a relatively small company to a very large and profitable firm - what with designing the MS-DOS operating system, and eventually IBM/PS/2, for the IBM PC in the early Eighties, how could they possibly lose?

The first spark came for MSX started back in 1982, and came from two American businessmen, Barry Fox and Allen Weiss. They decided to set up a microcomputer company called Spectravision, and since they were working from a base in Hong Kong they chose to have the machine's hardware specification done there.

But they needed a BASIC, so who did they turn to? Microsoft, of course, and after several months of correspondence they finally received a reply telling them they should contact ASCII, who were handling the American firm's Far Eastern affairs.

This led to the involvement of Ray Nishi, and after several negotiations ASCII/Microsoft agreed to do Spectravision's BASIC.

By winter 1982/83 the machines were finished, the names of Spectravision's computers were the SV1, SV2 and T28. But sales did not do as well as hoped.

Nishi obviously understood the potential of the Spectravision range,

but he also saw the state of the micro-computer market: there was no standard, incompatibility between different machines, he predicted that Japanese electronics manufacturers would be interested in creating a standard, so he approached firms such as Sony, Toshiba and Panasonic in 1982.

They, and about a dozen other companies, jumped at the chance - and in 1982 Nishi announced the MSX standard.

Heroic failure

Well, that's roughly how MSX started, but since then we've seen things come and go. MSX at one time had three UK dedicated publications, on the internet, but in mid-1986 we saw the demise of the last MSX publication, ASCII Computing, thanks to a lack of advertising.

But of course this was after Sony, Toshiba and companies pulled out of the UK MSX market.

Many believe the so-called failure of MSX was down to its lack of specification. But this argument can easily be dismissed, because at that time the spectrum was flourishing, and Amstrad had just released their own CPC range. MSX was a far better machine than any other 8-bit computer then, and still is.

There were other reasons for MSX's poor sales, not least the price of the original machines - would you buy a disk drive that cost more than a computer? Sony's MSX disk drive cost £149, while their MSX kit kit machine cost £300.

But all said and done, the story in particular is so Nishi has what happened to MSX.

In late 1985 the MSX-01 was

"MSX is a far better machine than any other 8-bit computer - and the graphics are up to ST standard"

More mysterious ASCII seems believed they were right but they often get blamed by the system's poor support

launched in Japan, but by that time MSX was far behind the Spectrum, C64 and CPC. The manufacturers must have realised even then that the MSX did not have much of a chance against these machines, and the up-and-coming 16-bit micros - otherwise they would have launched the MSX-01 in the UK.

TB last year, you couldn't have bought an MSX-01 in Britain. This changed when a few ASCII readers started selling them, and soon quite a few are in use. There aren't enough to have any support from software houses, but Raynolds do supply a few extra here and there. Meanwhile, if you're never seen an MSX-01 game you may be quite shocked when you do the graphics are up to the standard of the ST, it may seem, though it's a 'homebrew' 4-bit.

The third problem was for the MSX was in the announcements that an enhanced MSX-01, the MSX-02, is to be officially released in Europe (TGM/ASCII). Its specifications include 19,200 colours (no, it's not a typo), a maximum bitmapped screen resolution of 512x1024 (this was previously only available for the MSX-01 with a special adapter), but once comes as standard - Kanazawa City Channel FM sound chip, MSX BASIC 1.0, and a Z8018 CPU, running at 6MHz.

As to this machine being officially released in the UK, well, that's a different matter - but again, we should see some MSX readers working them. An MSX-01 with a display is expected to cost £120-1500 in Holland, but I doubt this necessarily represents a tiny UK price.

Let's just hope that a few people - software houses, readers, magazines - see the light.

■ If you're a struggling MSX user, all advice with no one to turn to for help, write to Craig Bell c/o TGM - he'll be more than glad to give help and assistance. Please send an SAE, your's photos, because the closer work at the office.

For information on MSX software, contact the Komori Software Centre (7 Braden Way, Preston, Lancs, PR1 7TQ) 0524 500000 or 0524 500011.





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